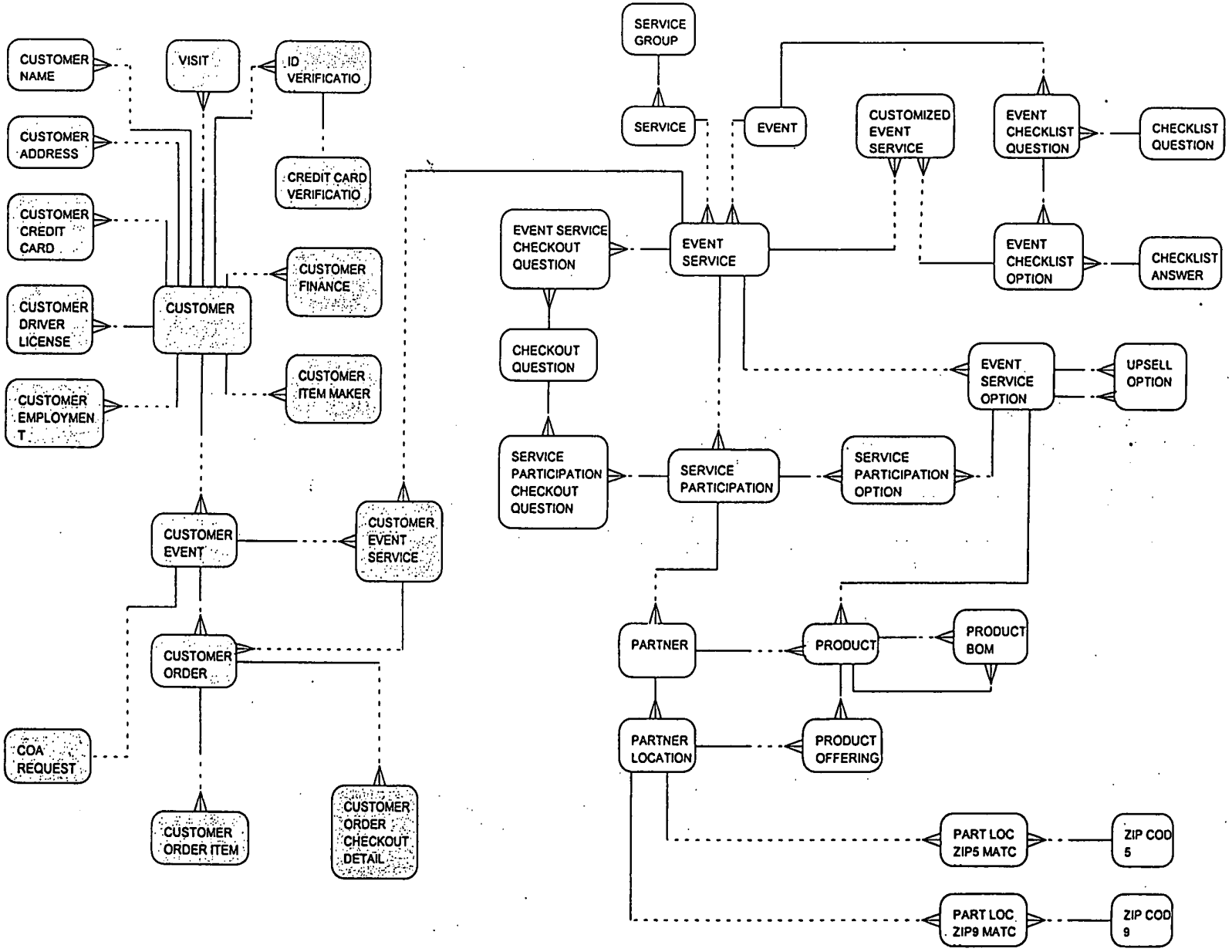
APPENDIX II

Logical Data Model for MG.com



TERM	LDB	C/S	DEFINITION	Alias	SE	OF	CS	SI	DE
Account	2F	C	A group of fields populated at account creation time by a customer. When a customer logs into his/her account, the entered account information is checked against the account information on the system. The customer can modify the account information after logging in.		X		X		X
Account Name	2F	C	A name created by a customer as the account identifier. All user names are unique in the system.		X	X	X		X
Address	2F	C	A group of fields that hold an address entered by a visitor or a customer. All addresses in the system have been standardized against the USPS address database. The system will not accept an address not in the USPS address database.		X	X	X		
Address 1	2F	C	The first address line of an address.		X	X	X		
Address 2	2F	C	The second address line of an address.		X	X	X		
Address Purpose	2F		The purpose of an address, which could be move_from, move_to, ship_to, and bill_to.						
Address Type	1T	S	The type of an address format based on USPS standard. The available address types are street, apartment, rural, etc.			X			
Address Type Id	2F	C	The type of an address. 1 - old. 2 - new.	addrTypeId					
Anchor Field	2F	S	A field to indicate the special status of checkout question. Checkout questions are displayed and validated in groups and the group size can vary from 1 to many. In general, the last field in a group is designated as the anchor field. The system only displays list of values from previously saved records immediately below an anchor field. The validation of the input to the checkout questions is also done based on anchor fields.			X			
Answer Type Id	2F	S	The type of answer (e.g. Y/N radio button, list of values, etc.) to a checklist question.			X			
Area Code	2F	C/S	The 3-digit area code of a phone number.		X	X	X		
Bank Account	2F	C	A group of fields that hold the information required to open a bank account.			X	X		
Bill to Address	3V	C	A group of fields that hold an address to receive bill.			X	X		
Bundle Package	2F	S	A field to indicate if the product is a bundled package. If yes, the product components of the bundled package are specified in Product Bom.			X	X	X	
Call Back Date	2F	C	The date to call the customer back.	cbDate		X	X		
Call Back Time	2F	C	The time to call the customer back.	cbTime		X	X		
Callback	2F	C	A group of fields that hold the customer's preference for callback.			X	X		
Cancellation Policy	2F	S	The policy to cancel orders.		X	X	X		
Checklist Answer	1T	S	A possible response to any checklist questions.			X			
Checklist Answer Id	2F	S	A unique and meaningless number to identify a checklist answer.	clistAId		X			
Checklist Question	1T	S	A question for a visitor to customize the checklist.			X			
Checklist Question Id	2F	S	A unique and meaningless number to identify a checklist question.	clistQId		X			
Checkout Question	1T	S	A question to be asked on a checkout page to complete the ordering process.			X	X		
Checkout Question Group Id	2F	C/S	A unique and meaningless number to identify a checkout question group.	coutQGroupId		X	X	X	
Checkout Question Id	2F	C/S	A unique and meaningless number to identify a checkout question.	coutQId		X	X	X	
Checkout Question Id	2F	S	A unique and meaningless number to identify a checkout question.			X	X		
Checkout Question Value	2F	C/S	The input from a customer to a checkout question in a checkout question group.	coutQValue		X	X	X	

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Child Option Id	2F	S	The upsell service option.			X			
Child Product Id	2F	S	The component product of a bundled package.			X			
Citizenship	3V	C	The citizenship of the customer for credit verification.			X	X		
City	2F	C	The city of an addres.		X	X	X		
City Id	2F	S	A unique and meaningless number to identify a city.			X			
COA Cost	2F	S	The direct unit cost for a change of address order. This cost is applicable for product offerings that will accept change of address requests on line such as magazines or newspapers.		X	X	X		
COA Id	2F	C	A unique and meaningless number to identify an ICOA request.			X	X		
COA Order Allowed	2F	S	A field to specify if a change of address order can be accepted.		X	X	X		
COA Request	1T	C	An ICOA request confirmed and submitted by a customer.			X	X		
Contact	2F	S	The name of the contact at a partner location.				X		
Country	2F	C	The country of an address. For MoversGuide.com, the country will be defaulted to USA.		X	X	X		
County Id	2F	S	A unique and meaningless number to identify a county.			X			
Credit Card	2F	C	A group of fields that hold the information about a customer's credit card. A customer can elect to save the information about a credit card in the system for later use. Otherwise, a customer will have to enter the credit card information for every purchase.		X	X	X		
Credit Card Number	2F	C	The number of a credit card.						
Credit Card Type ID	2F	C	The type of a credit card (e.g. American Express, Visa, Master, etc.).		X	X	X		X
Credit Card Verification	2F	C	The credit card used for ID purposes.		X		X		X
Customer	1T	C	A person that has created an account with MoversGuide.com. The system assigns a unique and meaningless number called customer ID to each customer.			X	X		
Customer Credit Card	1T	C	A credit card record a customer elects to save in the system for later use.			X	X		
Customer Driver License	1T	C	A driver license a customer elects to save on the system for later use.			X	X		
Customer Employment	1T	C	An employement record a customer elects to save in the system for later use.		X	X			
Customer Event	1T	C	A specific event for a customer. For example, if a customer uses MoversGuide.com for 2 moves, there will be 2 customer events on the system - one for each move.			X	X	X	
Customer Event Service	1T	C	All the services applicable to a customer event. Each applicable service is also listed as an item on the checklist.			X	X	X	X
Customer Finance	1T	C	A finance record a customer elects to save in the system for later use.		X	X			
Customer ID	2F	C	A unique and meaningless number to identify a customer.			X	X		
Customer Item Maker	1T	C	An item record a customer elects to save in the system for later use.		X	X			
Customer Name	1T	C	A name used by a customer, who elects to save it on the system for later use.			X	X		

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Customer Order	1T	C	An order confirmed and submitted by a customer to acquire product offerings from a partner for a service. A customer order is at service participation level, which is a combination of service and partner. For example, if a customer orders moving supplies from 2 companies, there will be 2 customer orders. To follow the same logic, if a customer orders LD and cable separately from 1 company, there will 2 customer orders as well.			X	X	X	
Customer Order Checkout Detail	1T	C	A checkout question in a checkout question group and input from the customer required to fill a customer order. If a checkout question is asked twice in different checkout question groups, there will 2 checkout question detail records.			X	X	X	
Customer Order Id	2F	C	A unique and meaningless number to identify a customer order.	custOrderId		X	X		
Customer Order Item	1T	C	An item (I.e. product offering) on a customer order.		X	X	X	X	
Customer Order Policy	2F	S	The policy regarding customer orders.		X	X	X		
Customer Residence	1T	C	A residence record a customer elects to save in the system for later use.		X	X			
Customer Service Policy	2F	S	The policy regarding Customer Service.		X	X	X		
Customer Social Security Number	1T	C	A social security record a customer elects to save in the system for later use.		X	X			
Customizable	2F	S	A field to indicate the applicability of an event service to a customer. If an event service is not customizable, it is applicable to any customer. Otherwise, the applicability of an event service depends on the customer's answers to the event checklist questions. For example, pet related services are customizable since they are only applicable to those who are moving with pets.			X			
Customized Event Service	1T	S	An event service applicable to an event checklist option.			X			
Date 1	2F	C	The move-out date for a customer event (I.e. a move on MoversGuide.com).			X	X	X	
Date 2	2F	C	The move-in date for a customer event (I.e. a move on MoversGuide.com).			X	X	X	
Date of Birth	3V	C	The customer's date of birth.			X	X		
Default Option	2F	S	A designated answer to a checklist question when it is first displayed.			X			
Delivery Time	2F	S	The standard delivery lead time from a partner location to anywhere in the USA.			X	X		
Description	2F	S	A group of fields that hold various descriptions of an object (e.g. product, partner, etc.)		X	X	X		
Desired Media	3V	C	The media to be used to deliver a product a customer ordered (e.g. CD, 3 1/2" diskette).			X	X		
Direct Cost	2F	C	The direct cost of an item or an order.			X	X	X	
Direct Cost	2F	C/S	A group of fields that hold the various direct costs of a product offering.		X	X	X		
Directory Listing Type	3V	C	The type of directory listing requested at ship to address.						
Display Name	2F	S	The name (heading) to be displayed on the screen for an object.			X	X		
Display Sequence	2F	S	The sequence to display an object (e.g. service participation, product offering, etc.)			X			
Dma Id	2F	S	A unique and meaningless number to identify a cDMA.			X			
Driver License	2F	C	A group of fields that hold a driver license issued by a state for credit verification.			X	X		
Driver License Number	2F	C	The number of a driver license used by a customer for credit verification.			X	X		

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Duration	2F	S	The lead time in number of days.		X	X	X		
Effective Date	2F	S	A group of fields that specify the valid time period of an object.		X	X	X		
Email Address Sent	2F	C	The email address to which the system sent the ICOA email confirmation.		X	X	X		
Email Confiramtion Time Stamp	2F	C	The time the system sent the email confiramtion to the customer's email account.		X	X	X		
Email Sent Time Stamp	2F	C	The time the system sent the email confiramtion to the customer's email account.		X	X	X		
Employer Name	2F	C	The name of a customer's employer for credit verification.			X	X		
Employment	2F	C	A group of fields that hold the customer's employment history for credit verification.			X	X		
Employment Status	2F	C	The status with the employer for credit verification. 1 - current. 2 - concluded.			X	X		
Event	1T	S	A significant incident for a person. Examples are moving, retiring, getting driver's license, etc.			X			
Event Checklist Option	1T	S	A combination of a checklist question and one of its acceptable answers for an event.			X			
Event Checklist Question	1T	S	A checklist question for an event.			X			
Event Id	2F	C/S	A unique and meaningless number to identify an event.			X		X	
Event Sequence	2F	C	A unique and sequential number to a customer to indicate a particular customer event (e.g. a move)			X	X	X	
Event Service	1T	S	A service applicable to an event.			X			
Event Service Checkout Question	1T	S	A checkout question applicable to an event service regardless of partners offering the products.			X			
Event Service Option	1T	S	A group of relevant products in one service. For example, Room Package is an option for the Moving Supplies service.			X			
Exchange	2F	C/S	The 3-digit exchange code of a phone number.		X	X	X		
Expiration Date	2F	C	The expiration date of an object (e.g. credit card, driver license, etc.)		X	X	X		
Express Shipping Cost	2F	C/S	The unit cost of express shipping.		X	X	X		
Express Shipping Cost Calculation Basis Id	2F	S	The method to calculate the express shipping cost. 1 - by percentage based on the sales amount and 2 - per basis (I,e, order or product offering) regardless of sales amount.		X	X	X		
Express Shipping Role Id	2F	S	The role of the express shipping cost. 1 - overwrite the regular shipping cost and 2 - add to the regular shipping cost.		X	X	X		
Extra Cost	2F	C	The exta cost of an item or an order.			X	X	X	
Extra Cost	2F	C/S	A group of fields that hold the various extra costs of an order or a product offering.		X	X	X		
Finance	2F	C	A group of fields that hold the customer's financial information for credit verification.			X	X		
First Name	2F	C	The first name of a person.		X	X	X		
Handling Cost	2F	C/S	The unit cost of handling.		X	X	X		
Handling Cost Calculation Basis Id	2F	S	The method to calculate the handling cost. 1 - by percentage based on the sales amount and 2 - per basis (I,e, order or product offering) regardless of sales amount.		X	X	X		
Heavy Color	2F	S	The heavy color to be used for an object.		X	X	X		

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Household Member	4C		A household member is a person for whom a customer uses his/her proven identity to acquire services on MoversGuide.com.						X
ICOA Time Stamp	2F	C	The time a customer confirms and submits an ICOA request.		X	X	X		
Id Verification	1T	C	An identification verification record.		X	X	X	X	
ID Verification ID	2F	C	A unique and meaningless number to identify an ID verification.		X		X		
Image	2F	S	The location of the image file for an object.		X	X	X		
Item Maker	2F	C	A group of fields that hold the maker information of an item.			X	X		
Item Status	3V	C	The status of an item (e.g. moveable car to be transported).			X	X		
Last Commit	2F	C	The time a record was last updated.		X	X	X		
Last Name	2F	C	The last name of a person.		X	X	X		
Lead Time	2F	S	A group of fields that hold the fields required to calculate the lead time of an event service.		X	X	X		
Lead Time Basis	2F	S	The basis to calculate the lead time of a service. 1 - move out date. 2 - move in date. 3 - the earlier of the two. 4 - the later of the two.		X	X	X		
Length	2F	S	The length of an object to be displayed on the screen.			X			
Light Color	2F	S	The light color to be used for an object.		X	X	X		
Link	2F	S	The URL for an object.		X	X	X		
Location Id	2F	C/S	A unique and meaningless number within a partner to identify a partner location.			X	X	X	
Long Description	2F	C/S	Long length text description (2000 characters) of an object.		X	X	X		
Long Distance Provider	3V	C	The long distance service provider at the ship to address.			X	X		
Manufacturer	2F	C	The manufacturer of an item.			X	X		
Marketing Answer Type Id	2F	S	A unique and meaningless number to identify a type of answer (e.g. Y/N, age listing, etc.) for marketing questions.	MarkATypeId		X			
Marketing Question Id	2F	S	A unique and meaningless number within a service participation to identify a marketing question.	MarkQId		X	X	X	
Match Method Id	2F	S	A unique and meaningless number to identify the method to locate a partner location. 1 - by state. 2- by city. 3- by county. 4 - by dma. 5 - by zip5. 6 - by designated zip5. 7 - by designated zip9.			X	X		
Maximum Answer	2F	S	The maximum number of answers a checklist question will accept.			X			
Maximum Order Duration	2F	S	The calendar day duration to calculate maximum order quantity. For example, if a customer can order no more than 5 magazines per week, the maximum order duration will be set to 7.		X	X	X		
Maximum Order Quantity	2F	S	The maximum number of product offerings a customer can order. For example, if it is set to 1 for a product, a customer can only order quantity of 1 for the product. If it is set to 1 for an event service option, a customer can only order 1 product from the option for the quantity of 1. If it is set to 1 for an event service, a customer can only order 1 product from the service regardless of options for the quantity of 1. If the field has NULL value, it means there is no order quantity restriction.		X	X	X		
Medium Color	2F	S	The medium color to be used for an object.		X	X	X		
Medium Description	2F	C/S	Medium length text description (1000 characters) of an object.		X	X	X		
Middle Name	2F	C	The middle name of a person.		X	X	X		
Model	2F	C	The model of an item.			X	X		

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Model Year	2F	C	The year for the model of an item.			X	X		
Monthly Mortgage	2F	C	The monthly mortgage payment of a customer for credit verification.			X	X		
Monthly Rent	2F	C	The monthly rent of a customer for credit verification.			X	X		
Monthly Salary	2F	C	The monthly salary income of a customer for credit verification.			X	X		
MVL Time Stamp	2F	C	The time the system processed the ICOA request and created a file for MVL processing.		X	X	X		
Name	2F	S	The name of an object.		X	X	X		
Name Id	2F	C	A unique and meaningless number within a customer to identify a saved name.			X	X		
New Address	2F	C	The new address of an ICOA request record.			X	X		
New Construction	3V	C	A field to indicate if the building at the ship to address is a new building.			X	X		
New Cost	2F	S	The direct unit cost for a new order. Most product offerings will have new costs.		X	X	X		
New Order Allowed	2F	S	A field to specify if a new order can be accepted.		X	X	X		
No Extra Cost Minimum	2F	S	The minimum sales amount to waive all the extra costs.		X	X	X		
Number of Calling Cards	3V	C	The number of calling card a customer ordered.			X	X		
Old Address	2F	C	The old address on an ICOA request record.			X	X		
Option Id	2F	S	A unique and meaningless number within a service for an option.			X			
Option Type Id	2F	S	A field to indicate the option is a standalone option or an upsell option. 1 - standalone. 2 - upsell.			X			
Order Date	2F	C	The date a customer order was placed.			X	X	X	
Order Status	2F	C	The status of a customer order. 1 - open. 2 - processed. 3 - closed.			X	X	X	
OrderOption	2F	S	A group of fields that specify the paramters to accept an order for a particular event (I.e. a move on MoversGuide.com). Order options are available at Event Service, Event Service Option, and Product levels.		X	X	X		
Parent Option Id	2F	S	The standalone service option.			X			
Parent Product Id	2F	S	The bundled package.			X			
Partner	1T	S	An entity that does business with MoversGuide.com.			X	X	X	
Partner Assigned ID	2F	C/S	The ID assigned by a partner for an object.		X	X	X		
Partner Id	2F	C/S	A unique and meaningless number to identify a partner.			X	X	X	
Partner Location	1T	S	A logically unique location for a partner to organize its product offerings. In general, the number of partner locations for a partner will be consistent with the match method specified for the service participation with the exception of zip5 and zip9 match. For instance, if the match method is by state, each state the parter serves should have a partner location. If a cable company offers the same products in two states with different pricing, there will be 2 partner locations in the system for the cable company although it may only have one physical location in one of the two states.			X	X	X	
Partner Location Zip5 Match	1T	S	A record to specify a partner location serving a particular zip5.	PartLocZip5Match		X	X		

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Partner Location Zip9 Match	1T	S	A record to specify a partner location serving a particular zip9. This table will be running the risk of becoming too large to be managed if many partners have match method of zip9. There are 3MM zip9s in the country and potentially this table can be > 30MM records, which makes any real-time retrieval with reasonable response time close to impossible without special hardware and software.	PartLocZip9Match		X	X		
Partner Type Id	2F	C/S	A field to indicate a partner type. 1 - service provider. 2 - distribution channel. For each relationship a partner has with MoversGuide.com, a partner record will be set up.			X	X	X	
Password	2F	C	A password created and maintained by a customer to match an account name.		X		X		
Person Name	2F	C	A group of fields that hold a name.	pName	X	X	X		
Phone	2F	C/S	A group of fields that hold a phone number.		X	X	X		
Phone Number	2F	C/S	The 4-digit number following the exchange code of a phone number.		X	X	X		
PO Box	2F	C	The PO Box of an address if applicable.		X	X	X		
Policy	2F	S	A group of fields that hold various policies of an object (e.g. partner, USPS, etc.)		X	X	X		
Position	2F	C	The description of a customer's title with an employer for credit verification.			X	X		
Presentation	2F	S	A group of fields that specify how an object will be displayed on the site.		X	X	X		
Privacy Policy	2F	S	The policy regarding privacy.		X	X	X		
Processing Log	2F	C	A group of fields that document the processing steps of an ICOA request.		X	X	X		
Product	1T	S	A product from a partner for a service option.			X	X	X	
Product Bom	1T	S	A record that documents the relationship between a bundled package and one of its component products. If a bundled package has 3 components, there will be 3 Product Bom records. Of course, all four products including the bundled package and the 3 components need to be set up as products first in the Product table.			X	X	X	
Product Id	2F	C/S	A unique and meaningless number to identify a product.			X	X	X	
Product Offering	1T	S	A product offered by a partner location.			X	X	X	
Quantity	2F	C/S	Number of an object.			X	X	X	
Quote Policy	2F	S	The policy regarding quotes given out on the site.		X	X	X		
Record Log	2F	C	A group of fields to document the last update of an record.		X	X	X		
Regular Shipping Cost	2F	C/S	The unit cost of regular shipping.		X	X	X		
Regular Shipping Cost Calculation Basis	2F	S	The method to calculate the regular shipping cost. 1 - by percentage based on the sales amount and 2 - per basis (I,e, order or product offering) regardless of sales amount.		X	X	X		
Reminder Answer	2F	C	The answer to the reminder question. It is created and maintained by a customer. See Reminder Question for more details.		X		X		
Reminder Question	2F	C	A question created and maintained by a customer. If a customer forgets his/her password, the system can display this question and prompt the customer to enter an answer. If the answer matches the one stored in the system, the system will send the password to the customer's email account without the user name.		X		X		
Renewal Cost	2F	S	The direct unit cost for a renewal order. This cost is applicable for product offerings that can be renewed such as magazines or newspapers.		X	X	X		X

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Renewal Order Allowed	2F	S	A field to specify if a renewal order can be accepted.		X	X	X		X
Reorder Allowed	2F	S	A field to specify if a customer can reorder.		X	X	X		
Required	2F	S	A field to indicate if a not Null value is required.			X	X		
Residence	2F	C	A field that holds the states a customer has had residence established in the past.			X	X		
Result Description	2F	C	The verification result description returned by the verifier.	resultDesc	X	X	X	X	
Result Id	2F	C	The verification result Id returned by the verifier.		X	X	X	X	
Route	2F	C	The rural route ID of an address if applicable.		X	X	X		
Sequence Id	2F	C	A number to identify the sequence of a record.			X	X		
Service	1T	S	A clearly identifiable work a person performs during an event. On MoversGuide.com, each item on the checklist is a service. The characteristics of a service include one set of description fields, several cohesive options to group the products for the service, several service providers, and one set of check out questions. A service can be available to several events and vice versa.			X			
Service Group	1T	S	A grouping of services for illustration and usability purposes for the customers. There is no specific function to be performed on a service group.						
Service Option	1T	S	A method to group related products available to a service.			X			
Service Participation	1T	S	A record that documents a partner's participation in a service.			X	X	X	
Service Participation Checkout Question	1T	S	A checkout question in a checkout question group to be asked for a particular service participation. This table is used to store the checkout questions specific to a service participation.			X	X		
Service Participation Marketing Question	1T	S	A marketing question to be asked for a service participation at the end of the checkout process. The difference between a marketing question and a checkout question is that no validation will be done to the answer of a marketing question.			X	X	X	
Ship to Address	3V	C	A group of field that holds an address to receive goods or services.			X	X		
Shipping Policy	2F	S	The policy regarding shipping.		X	X	X		
Short Description	2F	C/S	Short length text description (240 characters) of an object.		X	X	X		
Social Security Number	2F	C	A social security number for credit verification.			X	X		
SSN	2F	C	The social security number used by a customer.			X	X		
Start Date	2F	S	The beginning of an effective date. This field is a date time field.		X	X	X		
State	2F	C	The USPS designated 2-letter state abbreviation.		X	X	X		
State Id	2F	S	A 2-letter USPS designated state abbreviation.			X			
Status	2F	C	The status of a customer event service, which is also a checklist item. 1 - Open. 2 - Completed.	custEventServiceStatus		X	X	X	
Stop Date	2F	S	The end of an effective date. This field is a date time field. A NULL value for the field represents that the object will be valid forever after the start date.		X	X	X		
Suffix	2F	C	The suffix in a person's name.		X	X	X		
Suspension Reason	2F	C	The reason an ICOA request is suspended and waiting for manual review.		X	X	X		
Suspension TS	2F	C	The time an ICOA request is suspended.		X	X	X		

1T: Table, 2F: Named Field, 3V: Value Field, 4C: Conceptual
C: Customer only, C/S: Customer/System, S: System only
SE: Security, OF: Order Fulfillment, CS: Customer Service, SI: Site Improvement, DE: Debugging

TERM	LDB	C/S	DEFINITION	Alias	SE	OF	CS	SI	DE
Suspension User Name	2F	C	The user name of the subject that suspended an ICOA request.		X	X	X		
Time Zone	2F	C	A US time zone on which the call back time is based.			X	X		
Title	2F	C	The title in a person's name.		X	X	X		
Total Cost	2F	C	The total cost of an item or an order.			X	X	X	
Unit ID	2F	C	The unit ID of an address if applicable.		X	X	X		X
UOM	2F	S	Unit of measure of an object.			X	X	X	X
Upsell Option	2F	S	A record that documents the relationship between a standalone service option and an upsell service option.			X			X
User Name	2F	C	The name of user account to access the database.		X	X	X		X
VerificationType Id	2F	C	A type of ID verification. 1 - digital certificate. 2 - credit card.	veriTypeId	X	X	X	X	
Verifier	2F	C	The entity that confirms the verification of the Id.		X	X	X	X	
Visit	1T	C	A set of contiguous activities on MoversGuide.com by a visitor. When a visitor first comes to MoversGuide.com, the system assigns a unique and meaningless text string called session ID and a unique and meaningless number called visit ID to signify the beginning of a visit session. Since Internet is a stateless environment, the session ID is a common practice and necessity for on-line transaction processing purposes. The system will automatically terminate a visit session based on a pre-determined duration of inactivity. The system will track the visit statistics including the browser's environment variables and the page visited. The visit ID will be tied to a customer ID if the visitor chooses to create an account on MoversGuide.com.		X		X	X	
Visit Id	2F	C	A unique and meaningless number assigned to each session.		X	X	X	X	
Visitor	4C		A person who visits MoversGuide.com.						
Warranty Policy	2F	S	The policy regarding warranty.		X	X	X		
Weekend Allowed	2F	S	The field to indicate if a service can begin on a weekend day. If not, the start date of a service will the Friday before the weekend.		X	X	X		
Zip Code 5	1T	S	A zip5 record.			X	X		
Zip Code 9	1T	S	A zip9 record.			X	X		
ZIP5	2F	C/S	The 5-digit Zip code of an address.		X	X	X		
ZIP9	2F	C/S	The 9-digit Zip code of an address.		X	X	X		

1T: Table, 2F: Named Field, 3V: Value Field, 4C: Conceptual
C: Customer only, C/S: Customer/System, S: System only
SE: Security, OF: Order Fulfillment, CS: Customer Service, SI: Site Improvement, DE: Debugging

/* User-defined Objects used in Tables

```
Account
(
accountName             VARCHAR2(20)    ,
password                VARCHAR2(10)    ,
reminderQ               VARCHAR2(40)    ,
reminderA               VARCHAR2(40)
)

Address
(
addr1                   VARCHAR2(60)    ,
addr2                   VARCHAR2(60)    ,
poBox                   VARCHAR2(20)    ,
route                   VARCHAR2(40)    ,
city                    VARCHAR2(40)    ,
state                   VARCHAR2(40)    ,
country                 VARCHAR2(40)    ,
unitId                  VARCHAR2(20)    ,
zip5                    Number          ,
zip9                    Number
)

CallBack
(
cbDate                  VARCHAR2(20)    Not Null,
cbTime                  VARCHAR2(20)    Not Null,
timeZone                VARCHAR2(10)    Not Null
)

CreditCard
(
typeId                  Number          Not Null,
ccNumber                VARCHAR2(40)    Not Null,
pName                   PersonName      Not Null,
expirationDate          Date            Not Null,
addr                    Address
)

Description
(
name                    VARCHAR2(40)    Not Null,
image                   VARCHAR2(240)   ,
link                    VARCHAR2(240)   ,
partnerAssignedId       VARCHAR2(240)   ,
mdesc                   VARCHAR2(1000)  ,
ldesc                   VARCHAR2(2000)
)

DirectCost
(
newCost                 Number          ,
renewalCost             Number          ,
coaCost                 Number
)

DriverLicense
(
```

stateId	*VARCHAR2(10)*	*Not Null,*
dlNumber	*VARCHAR2(40)*	*Not Null,*
expirationDate	*Date*	*Not Null*
)		

EffectiveDate
(

startDate	Date	Not Null,
stopDate	Date	

)

Emplpoyment
(

employerName	*VARCHAR2(40)*	*Not Null,*
employmentStatus	*Number*	*Not Null,*
position	*VARCHAR2(40)*	*Not Null*
)		

ExtraCost
(

regShipCostCalcBasisId	Number	,
regShipCost	Number	,
handlingCostCalcBasisId	Number	,
handlingCost	Number	,
expShipCostCalcBasisId	Number	,
expShipCost	Number	,
expShipRoleId	Number	,
noExtraCostMin	Number	

)

Finance
(

monthlyRent	*Number*	*Not Null,*
monthlyMortgage	*Number*	*Not Null,*
monthlySalary	*Number*	*Not Null,*
numberOfDependents	*Number*	*Not Null*
)		

ItemMaker
(

manufacturer	*VARCHAR2(40)*	*Not Null,*
model	*VARCHAR2(40)*	*Not Null,*
modelYear	*Number*	*Not Null*
)		

LeadTime
(

basisdId	Number	,
duration	Number	,
weekendAllowed	boolean	

)

OrderOption
(

newOrderAllowed	Boolean	Not Null,
renewOrderAllowed	Boolean	Not Null,
coaOrderAllowed	Boolean	Not Null,
maxOrderQty	Number	Not Null,

```
maxOrderDuration        Number          Not Null,
reorderAllowed          Boolean         Not Null,
)

PersonName
(
title                   VARCHAR2(10)    ,
fname                   VARCHAR2(40)    ,
mname                   VARCHAR2(40)    ,
lname                   VARCHAR2(80)
suffix                  VARCHAR2(10)
)

Phone
(
areaCode                VARCHAR2(10)    ,
exchange                VARCHAR2(10)    ,
phoneNum                VARCHAR2(10)
)

Policy
(
cancellation            VARCHAR2(2000)  ,
shipping                VARCHAR2(2000)  ,
customerService         VARCHAR2(2000)  ,
privacy                 VARCHAR2(2000)  ,
customerOrder           VARCAHR2(2000)  ,
warranty                VARCHAR2(2000)  ,
quote                   VARCHAR2(2000)  ,
)

Presentation
(
lColor                  VARCHAR2(40)    ,
mColor                  VARCHAR2(40)    ,
hcolor                  VARCHAR2(40)    ,
font                    VARCHAR2(40)
)

ProcessingLog
(
icoaTS                  Date            ,
emailAddressSent        VARCHAR2(240)   ,
emailSentTS             Date            ,
emailConfirmationTS     Date            ,
mvlTS                   Date            ,
suspensionReasonId      Number          ,
suspensionTS            Date            ,
SuspensionUserName      VARCHAR2(240)
)

RecordLog
(
userName                VARCHAR2(240)   Not Null,
lastCommit              Date            Not Null
)

SocialSecurityNumber
(
```

ssn	*VARCHAR2(10)*	*Not Null*
)		

Zip5Ref		
(		
cityId	Number	Not Null,
countyId	Number	Not Null,
stateID	VARCHAR2(10)	Not Null,
DmaId	Number	Not Null
)		

/* Tables

```
AddressType
(
id                          Number          Not Null,
sdesc                       VARCHAR2(240)   Not Null
)
Primary Key (id)

ChecklistAnswer
(
id                          Number          Not Null,
sdesc                       VARCAHR2(40)    Not Null,
recordLog                   RecordLog
)
Primary Key (id)

EventChecklistQuestion
(
eventId                     Number          Not Null,
qId                         Number          Not Null,
effectiveDate               EffectiveDate   ,
displaySequence             Number          Not Null,
answerTypeId                Number          ,
maxAnswer                   Number          ,
recordLog                   RecordLog
)

EventChecklistOption
(
eventId                     Number          Not Null,
clistQId                    Number          Not Null,
clistAId                    Number          Not Null,
defaultOption               Boolean         Not Null,
serviceId                   Number          Not Null,
 recordLog                  RecordLog
)
Primary Key (eventId, cListQId, clistAId)

ChecklistQuestion
(
id                          Number          Not Null,
 mdesc                      VARCHAR2(1000)  Not Null,
recordLog                   RecordLog
)
Primary Key (id)

CheckoutQuestion
(
id                          Number          Not Null,
name                        VARCHAR2(40)    Not Null,
length                      Number          Not Null
anchorfield                 Boolean         Not Null
)
Primary Key (id)

CoaRequest
(
```

id	Number	Not Null,
processingLog	ProcessingLog	,
customerId	Number	Not Null,
personName	PersonName	Not Null,
email	VARCHAR2(240)	Not Null,
oldAddress	Address	Not Null,
newAddress	Address	Not Null,
effectiveDate	EffectiveDate	Not Null,
recordLog	RecordLog	Not Null

)
Primary Key (id)

CreditCardVerification
(

idVerificationId	Number	Not Null,
creditCard	CreditCard	

)
Primary Key (id)

Customer
(

id	Number	Not Null,
personName	PersonName	,
email	VARCAHR2(240)	,
account	Account	,
recordLog	RecordLog	

)
Primary Key (id)

CustomerAddress
(

customerId	Number	Not Null,
sequenceId	***Number***	,
addrTypeId	Number	,
address	Address	,
recordLog	RecordLog	

)
Primary Key (customerId,***sequenceId***)

CustomerCreditCard
(

customerId	Number	Not Null,
sequenceId	***Number***	,
creditCard	CreditCard	,
recordLog	RecordLog	

)
Primary Key (customerId,***sequenceId***)

CustomerDriverLicense
(

customerId	***Number***	***Not Null,***
sequenceId	***Number***	,
driverLicense	***DriverLicense***	,
recordLog	***RecordLog***	

)
Primary Key (customerId,***sequenceId***)

CustomerEmployment
(
customerId	***Number***	***Not Null,***
sequenceId	***Number***	***,***
employment	***Employment,***	
recordLog	***RecordLog***	

)
Primary Key (customerId,***sequenceId***)

CustomerEvent
(
customerId	Number	Not Null,
eventSequence	Number	Not Null,
eventId	Number	Not Null,
date1	Date	,
date2	Date	,
recordLog	RecordLog	

)
Primary Key (customerId, eventSequence)

CustomerEventService
(
customerId	Number	Not Null,
eventSequence	Number	Not Null,
serviceId	Number	Not Null,
custEventServiceStatus	Number	Not Null,
effectiveDate	EffectiveDate	Not Null,
displaySequence	Number	Not Null,
recordLog	RecordLog	

)
Primary Key (customerId, eventSequence,serviceId)

CustomerFinance
(
customerId	***Number***	***Not Null,***
sequenceId	***Number***	***,***
finance	***Finance,***	
recordLog	***RecordLog***	

)
Primary Key (customerId,***sequenceId***)

CustomerItemMaker
(
customerId	***Number***	***Not Null,***
sequenceId	***Number***	***,***
itemMaker	***ItemMaker***	***Not Null,***
recordLog	***RecordLog***	

)
Primary Key (customerId,***sequenceId***)

CustomerName
(
customerId	Number	Not Null,
sequenceId	***Number***	***,***
personName	PersonName	,
recordLog	RecordLog	

)

Primary Key (customerId,*sequenceId*)

CustomerOrder
(

id	Number	Not Null,
customerId	Number	Not Null,
eventId	Number	Not Null,
eventSequence	Number	,
serviceId	Number	Not Null,
orderDate	Date	Not Null,
effectiveDate	Date	,
orderStatus	Number	Not Null,
partnerId	Number	Not Null,
directCost	Number	,
extraCost	Number	,
totalCost	Number	,
recordLog	RecordLog	

)
Primary Key (id)

CustomerOrderCheckoutDetail
(

custOrderId	Number	Not Null,
coutQGroupId	Number	Not Null,
coutQId	Number	Not Null,
coutQValue	VARCHAR2(240)	,
recordLog	RecordLog	

)
Primary Key (custOrderId, courQGroupId, coutQId)

CustomerOrderItem
(

custOrderId	Number	Not Null,
productId	Number	Not Null,
quantity	Number	Not Null,
partnerId	Number	Not Null,
locationId	Number	Not Null,
directCost	Number	,
extraCost	Number	,
totalCost	Number	,
recordLog	RecordLog	

)
Primary Key (custOrderId, productId)

CustomerResidence
(

customerId	*Number*	*Not Null,*
residenceId	*Number*	*Not Null,*
residence	*VARCHAR2(240)*	*Not Null,*
recordLog	*RecordLog*	

)
Primary Key (customerId, residenceId)

CustomerSocialSecurityNumber
(

customerId	*Number*	*Not Null,*
socialSecurityId	*Number*	*Not Null,*
socialSecurityNumber	*SocialSecurityNumber,*	

recordLog *RecordLog*
)
Primary Key (customerId, socialSecurityId)

CustomizedEventService
(
eventId Number Not Null,
clistQId Number Not Null,
clistAId Number Not Null,
serviceId Number Not Null
)
Primary Key (eventId, clistQId, clistAId, serviceId)

Event
(
id Number Not Null,
description Description ,
recordLog RecordLog Not Null
)
Primary Key (lifeEventID)

EventService
(
eventId Number Not Null,
serviceId Number Not Null,
serviceGroupId Number Not Null
Customizable Boolean Not Null,
displaySequence Number Not Null,
description Description ,
leadTime LeadTime ,
effectiveDate EffectiveDate ,
orderOption OrderOption ,
recordLog RecordLog
)
Primary Key (eventId, serviceId)

EventServiceCheckoutQuestion
(
eventId Number Not Null,
serviceId Number Not Null,
coutQGroupId Number Not Null,
coutQId Number Not Null,
required Boolean Not Null
displaySequence Number Not Null,
displayName VARCHAR2(40) ,
effectiveDate EffectiveDate ,
recordLog RecordLog
)
Primary Key (eventId,serviceId,coutQGroupId,coutQId)

EventServiceOption
(
eventId Number Not Null,
serviceId Number Not Null,
optionId Number Not Null,
optionTypeId Number Not Null,
displaySequence Number Not Null,
description Description ,

```
effectiveDate                EffectiveDate ,
orderOption                  OrderOption ,
recordLog                    RecordLog
)
Primary Key (eventId, serviceId, optionId)

IdVerification
(
id                           Number          Not Null,
visitId                      Number          Not Null,
veriTypeId                   Number          Not Null,
verifier                     VARCHAR2(240)   Not Null,
resultId                     Number          Not Null,
resultDesc                   VARCHAR2(240)   Not Null,
recordLog                    RecordLog
)
Primary Key (id)

PartLocZip5Match
(
zip5                         Number          Not Null,
partnerId                    Number          Not Null,
locationId                   VARCHAR2(40)    Not Null,
effectiveDate                EffectiveDate ,
recordLog                    RecordLog
)
Primary Key (zip5,partnerId,locationId)

PartLocZip9Match
(
zip9                         Number          Not Null,
partnerId                    Number          Not Null,
locationId                   VARCHAR2(40)    Not Null,
effectiveDate                EffectiveDate ,
recordLog                    RecordLog
)
Primary Key (zip9,partnerId,locationId)

Partner
(
id                           Number          Not Null,
name                         VARCHAR2(40)    Not Null,
partnerTypeId                Number          Not Null,
description                  Description ,
presentation                 Presentation ,
recordLog                    RecordLog
)
Primary Key (id)

PartnerLocation
(
partnerId                    Number          Not Null,
locationId                   Number          Not Null,
address                      Address ,
phone                        Phone ,
description                  Description ,
contact                      PersonName ,
deliveryTime                 Number ,
```

```
effectiveDate                  EffectiveDate   ,
zip5Ref                        Zip5Ref         ,
recordLog                      RecordLog
)
Primary Key (partnerId,locationId)

Product
(
id                             Number          Not Null,
description                    Description     ,
eventId                        Number          Not Null,
serviceId                      Number          Not Null,
optionId                       Number          Not Null,
displaySequence                Number          Not Null,
bundlePackage                  boolean         Not Null,
orderOption                    OrderOption     ,
recordLog                      RecordLog
)
Primary Key (id)

ProductOffering
(
partnerId                      Number          Not Null,
locationId                     VARCHAR2(40)    Not Null,
productId                      Number          Not Null,
effectiveDate                  EffectiveDate   ,
uom                            VARCHAR2(40)    Not Null,
directCost                     DirectCost      ,
extraCost                      ExtraCost       ,
description                    Description     ,
recordLog                      RecordLog
)
Primary Key (partnerId,locationId,productId)

ProductBom
(
parentProductId                Number          Not Null,
childProductId                 Number          Not Null,
quantity                       Number          Not Null,
recordLog                      RecordLog
)
Primary Key (parentProductId, childProductId)

Service
(
id                             Number          Not Null,
description                    Description     ,
effectiveDate                  EffectiveDate   ,
recordLog                      RecordLog       Not Null
)
Primary Key (serviceId)

ServiceGroup
(
id                             Number          Not Null,
description                    Description     ,
recordLog                      RecordLog
)
```

Primary Key (id)

ServiceParticipation
(

partnerId	Number	Not Null,
eventId	Number	Not Null,
serviceId	Number	Not Null,
matchMethodId	Number	Not Null,
eccLevel	*Number*	*Not Null,*
effectiveDate	EffectiveDate	,
displaySequence	Number	,
description	Description	,
extraCost	ExtraCost	,
policy	Policy	,
recordLog	RecordLog	

)
Primary Key (partnerId, eventId, serviceId)

ServiceParticipationCheckoutQuestion
(

eventId	Number	Not Null,
serviceId	Number	Not Null,
partnerId	Number	Not Null,
coutQGroupId	Number	Not Null,
coutQId	Number	Not Null,
required	Boolean	Not Null
displaySequence	Number	Not Null,
displayName	VARCHAR2(40)	,
effectiveDate	EffectiveDate	,
recordLog	RecordLog	

)
Primary Key (eventId,serviceId,partnerId,qGroupId,qId)

ServiceParticipationMarketingQuestion
(

partnerId	Number	Not Null,
eventId	Number	Not Null,
serviceId	Number	Not Null,
markQId	Number	Not Null,
effectiveDate	EffectiveDate	,
sdesc	VARCAHR2(240)	Not Null,,
markATypeId	Number	Not Null,
recordLog	RecordLog	

)
Primary Key (partnerId, eventId, serviceId, qId)

UpsellOption
(

eventId	Number	Not Null,
serviceId	Number	Not Null,
parentOptionId	Number	Not Null,
childOptionId	Number	Not Null,
recordLog	RecordLog	

)
Primary Key (eventId,serviceId,parentOptionId,childOptionId)

Visit
(

```
visitId                         Number          Not Null,
pageId                          Number          Not Null,
customerId                      Number          ,
recordLog                       RecordLog       Not Null
)
Primary Key (visitID,recordLog)

zipCode5
(
zip5                            Number          Not Null,
cityId                          Number          Not Null,
countyId                        Number          Not Null,
stateId                         VARCHAR2(10)    Not Null,
dmaId                           Number          Not Null,
recordLog                       RecordLog
)
Primary Key (zip5)

zipCode9
(
zip9                            Number          Not Null,
recordLog                       RecordLog
)
Primary Key (zip9)
```

Trigger Name

Arrival of MoversGuide.com visit request

Trigger Type

External

Frequency

10,000 visitors per day from 8 A.M. to 8 P.M. 200 active sessions during peak time.

Business Transaction

Respond to MoversGuide.com Visit Request

Description

There is only one entry point to MoversGuide.com, which is the home page. After receiving a visit request, the system directs a visitor to the home page and begins a visit session. The home page has two frames and a visitor can click on the following actionable items in each frame.

Top Frame

The actionable items are as follows:

- USPS.com
- Privacy
- About Us
- Help
- Home
- Change of Address
- Shopping
- Info Center
- Login

The top frame remains throughout a visit to the site.

Content Frame

The actionable items are as follows:

- Change Address Online with US Postal Service
- Notify Friends and Family about Change of Address
- Get a Moving Checklist
- Get Driving Direction
- Get Community Information
- Get Important Phone Numbers
- Rent a Truck
- Purchase Moving Supplies
- Connect and Disconnect Cable
- Connect and Disconnect Local Phone
- Connect and Disconnect Long Distance Phone
- Connect and Disconnect ISP
- Connect and Disconnect Wireless
- Connect and Disconnect Utilities

- Purchase New Furniture
- Subscribe to Newspapers
- Get Local Maps
- Get Pet Service
- Get Banking Service

A visit session may be terminated based on a pre-determined duration of inactivity.

Issue

- ~~How to deal with bookmark issue for pages other than the home page?~~ Included in error handling of every page.
- Do we need to provide specific logout option? (SB)
- Do we need 2-frame? If not, how to deal with framed services? (SM)
- What to do with disconnect services since most of them will not be available for April 2000? (JT)
- Need to specify the timeout parameters and messages. (JT)
- Do we need to have copyright notice throughout the site? (SB)
- ***What is the definition of a customer? (SB,JT)***

Action Diagram

```
Present the Home Page;
WHILE (Not Done)
    CASE User Option
        "Change Address Online with US Postal Service"
            Provide ICOA Service;
        "Notify Friends and Family about Change of Address"
            Provide COA Notification Service;
        "Get a Moving Checklist"
            Provide Checklist Service;
        "Get Driving Direction"
            Provide Driving Direction Service;
        "Get Community Information"
            Provide Community Information Service;
        "Get Important Phone Numbers"
            Provide Important Phone Number Service;
        "Rent a Truck"
            Provide Truck Rental Service;
        "Purchase Moving Supplies"
            Provide Moving Supplies Purchase Service;
        "Connect and Disconnect Cable"
            Provide Cable Service;
        "Connect and Disconnect Local Phone"
            Provide Local Phone Service;
        "Connect and Disconnect Long Distance Phone"
            Provide Long Distance Phone Service;
        "Connect and Disconnect ISP"
            Provide ISP Service;
        "Connect and Disconnect Wireless"
            Provide Wireless Service;
        "Connect and Disconnect Utilities"
            Provide Utilities Service;
        "Purchase New Furniture"
            Provide Furniture Purchase Service;
        "Subscribe to Newspapers"
```

Provide Newspaper Subscription Service;
"Get Local Maps"
Provide Map Service;
"Get Pet Service"
Provide Pet Service;
"Get Banking Service"
Provide Banking Service;

Procedure
Present the Home Page

Doer
System

Description

The system will display the home page and begin a visit session by assigning a unique and meaningless text string called session ID and a unique and meaningless number called visit ID. For site performance improvement and debugging purposes, the system will log each page a visitor visits with a time stamp in the database. If the customer ID is available for the page being visited, the system will log the customer ID as well. The web servers outside the database will log the visitor's browser environment variables including browser version, referral URL, operating system version, searched words, etc. for site improvement and debugging purposes.

Issue

- We will not build in the capabilities to show different home pages by referral source. Since there is no requirement for co-branding specified, we have no corresponding design. (SB, JT)

Action Diagram

Generate Session and Visit Ids;
Log Page Visit;
Log Visitor Environment Variables;
Display Home Page;

Data Access

Visit
    visitID, C
    pageID, C
    customerID, C
    RecordLog, C

RecordLog
    userName, C
    lastCommit, C

External
Home Page

External Type
Screen

Layout
\\Zimbabwe\icoa\Mockup_Final\index.html

Description

N/A

Data Access

EventService
    eventId, R
    serviceId, R
    description, R
    effectiveDate, R

EffectiveDate
    startDate, R
    stopDate, R

Service
    id, R
    description, R

Procedure
Change Address Online with US Postal Service

Doer
System

Description

Address Start Page

The user will enter the move type, the move dates, and the mover's name on this page. The default selections for the page are as follows:

- Move type : individual
- Move date : permanent, NULL start date, disabled end date

Permanent and temporary moves are mutually exclusive and the user can only choose one of them. If the use clicks on temporary move, enable the end date field and make sure the end date is not NULL and greater than or equal to the start date without going back to the server. If the user changes his/her mind and clicks on the permanent move again, blank out and disable the end date.

After filling out all the information, the user will click on the Continue button and the system proceeds to the Address page.

Address Page

The user will specify the address type for old and new addresses and the system will display the correct address formats and prompt the user to enter them. The default selections for the page are as follows:

- Address type : street
- In Puerto Rico : no
- On a domestic military installation: no

If the user changes his/her mind and change the address type, the system will display the new address format and discard the previously entered address information. The system has to be able to do all this without going back to the server.

After filling out all the information, the user will click on the Continue button and the system will check the entered addresses against the USPS address database.

- If both addresses are valid in the USPS address database, the system will standardize them and proceed to the Address Confirmation page.
- Otherwise, the system will stay on the Address page and display the error messages.

Address Confirmation Page

The system will display the standardized old and new addresses on this page and ask the user to confirm it. The system will then proceed to the ID Selection page.

ID Selection Page

The system will prompt the user to select a method to prove his/her identity. At this time, we will only provide credit card method. Once the user clicks on the Continue button, the system will proceed to the Credit Card page.

Credit Card Page

The system will display the credit card page and prompt the user to enter the name, address, credit card number, and expiration date information. Standard credit card check will be performed without going back to the server. Once the user clicks on the Continue button, the system will perform AVS and IVS checks based on the information entered.

- If the card is valid, write the COA request to the database and proceed to the E-mail Confirmation page.
- If not, stay on the credit card page and display the error messages. Allow the user to try it three times and then terminate the session.

E-mail Confirmation Page

The system will generate a unique password for the user and prompt the user to enter an e-mail address for the system to send a confirmation link. The user will click on the confirmation link and enter the password to activate the ICOA request.

Address End Page

The system displays the thank you message for using ICOA. After the user clicks on Finish button, the system returns to the home page.

Issue

- Need to come up with a term for temporary or permanent move. (SB)
- Need to add temporary or permanent move radio buttons before the date fields. (SB)
- Need to come up with exact error messages and instruction when the user does not filling out the form properly. (SB)
- Need to ask USPS for address standardization cgi and test it out. (SB)
- Do we need to explain the meaning of various address types? (SB)
- Changing address format without going back to the server is difficult for the Netscape environment. Can we obtain the address types for old and new addresses first and then display the appropriate address formats? (SB)
- Let's make sure we include live e-mail confirmation in the next focus group to ensure that people understand what to do. (SB)
- If the customer enters an e-mail address that has been used before (e.g. another person or the same person that has used ICOA for the last move), what should we do? (SB, JT)
- Do we need to check any customer environment variables (e.g. same IP changing 100 addresses) to prevent possible fraud? On the other hand, what is the reliabilty of such check (e.g. IP check is basically useless for people coming in through sites using proxy servers)? (SM, SB)
- Change the year format from yy to yyyy. (SB)
- Do we need to provide the print option on ID selection and/or Credit Card pages? (SB)
- The current MoversNet asks for contact information, which is not present in the UI design. (SB)
- Do we need to pre-populate the fields on the credit card page? (SB)
- Need to confirm the checking criteria between credit card name and COA name. (SB)
- Need to finalize the policy on allowing a confirmed ID to change address for another person. (SB)
- What is the criteria to suspend the processing of an ICOA request (e.g after 5 failed attempts of email confiramtion)? (SB)
- Can ICOA share customer information with other services? Does it make sense to ask the customer about it? Is there a church and state requirement from USPS? (SB)
- The Checkout pages for credit card did not have credit card address fields. The save functions as discussed are not reflected in the Checkout pages. (SB)
- What is the customer service procedure for ICOA after the request has been filed? (JT, SB)
- ***What are the specific parameters to suspend an ICOA request (e.g. no email confiramtion beyond 2 days, etc., 5 days without negative MVL confirmation, etc.) ? Can an ICOA be suspended first and then reactivated***

it? If so, do we need to track all the history? (SB)

Action Diagram

Present Address Start Page;
Present Address Page;
Validate Addresses against USPS Address Database;
Present Address Confirmation Page;
Present ID Selection Page;
WHILE (Not Validated) and (<= 3 Tries)
    Present Credit Card Page;
    Validate Credit Card based on AVS and IVS Checks;
    Log Credit Card Validation Transaction;
END WHILE
IF Credit Card Validation Failed THEN
    Terminate the Session;
ELSE
    Present E-mail Confirmation Page;
    Generate and Send E-mail to the User;
    Present Address End Page;
END IF;

Data Access

External
Address Confirmation Page

External Type
Screen

Layout

Description

N/A

Data Access

Customer
    id, C
    personName, C
    email, C
    account, C
    recordLog, C

CustomerAddress
    customerId, C
    addrId, C
    addrPurposeId, C
    addrTypeId, C
    address

Account
    userName, C
    password, C
    reminderQ, C
    reminderA, C

PersonName
    titile, C
    fname, C
    mname, C
    lname, C
    suffix, C

Address
    addr1, C
    addr2, C
    unitId, C
    poBox, C
    route, C
    city, C
    county, C
    state, C
    country, C
    zip5, C
    zip9, C

coaRequest
    id, C
    processingLog, C
    name, C
    email, C
    oldAddress, C
    newAddress, C
    effectiveDate, C
    recordLog, C

ProcessingLog
    icoaTimeStamp, C
    emailConfirmation, C
    mvlTimeStamp, C
    suspensionReasonId, C
    suspensionTimeStamp, C

IdVerification
    id, C
    visitId, C
    typeId, C
    verifier, C
    resultId, C
    resultDesc, C
    recordLog, C

CreditCardVerification
    id, C

creditCard, C

CreditCard
typeId, C
name, C
ccNumber, C
expirationDate, C
addr, C

Procedure
Get a Moving Checklist

Doer
System

Description

Checklist Customization Page

The system displays the customization questions first. All questions have no as the default option. The user can change the option for each question. After the user click Continue button, the system proceeds to Personalized Checklist page.

Personalized Checklist Page

The system will find the checklist items (i.e. Event Service) based on the customization options specified by the user, group them by lead time in pre-determined interval, and display them in descending order of the time interval. There is a check box in front of each item the user can use to indicate the completion of a task.

The user can choose to save the checklist and the system will prompt the user to create an account.

Issue

- Are we always going to have yes/no as the answers to each customization question? (SB)
- How does a returned customer retrieve his/her previously created checklist? If a customer has logged into his/her account for another service and then comes to the checklist, should we retrieve the checklist and display it? Need UI. (SB)
- The checklist is not asking for move in/out dates. (SB)
- What happens when a customer clicks on back button to the customization page, changes some options, and then clicks on the Continue button? Pretty much the same question as what to do when a customer has a previously saved checklist and goes through the checklist creation process again. (SB)
- Do we want to send a saved checklist to the customer through e-mail? Do we need to provide a Print option to print out the checklist in a print-friendly format? (SB)
- Need to know what to do with multiple moves now. (SB)

Action Diagram

```
Present Checklist Customization Page;
Retrieve Checklist Items based on Customization Options;
Present Personal Checklist Page;
IF the user Wants to Save the Checklist THEN
    Save the Checklist;
END IF
```

Data Access

CustomerEventService
    customerId, C
    eventId, C
    serviceId, C
    status, C, U
    timeBucket, C
    displaySequence, C

recordLog, C

External

Checklist Customization Page

External Type
Screen

Layout

Description

N/A

Data Access

ChecklistQuestion
- id, R
- displaySequence, R
- effectiveDate, R
- optionTypeId, R
- mdesc, R

CustomizedEventService
- eventId, R
- checkQId, R
- response, R
- serviceId, R

Procedure
Provide Moving Supplies Service

Doer
System

Description

Service Start Page

The system will display the service name and medium description. It will then prompt the user to enter a zip5 for step 1 and select options for the service for step 2. Beside the zip5 field, the system provides a zip code look up utility.

The steps to find options for the service excluding upsells are as follows:

- A service option is valid based on today's date.
- optionType is 1 (2 for upsell).

After clicking on the Continue button, the system will proceed to the Service Provider page.

Service Provider Page

The system will look up the available service providers for the zip5 and service options entered. The steps to find participating service providers to service the zip5 are as follows:

- Find service providers participating in the Moving Supplies service based on today's date.
- Find locations for each service provider for the zip5 specified based on partner participation match method.

If no service provider is found, the system displays a "Coming Soon" message. Otherwise, the system will display the available service providers with their images for the service side by side. Each row will have two service providers across. The maximum service options for each service participation will be displayed right beneth the partner's image.

The user can select one or more than one service providers and click the Continue button. The system will proceed to the Product Offering page.

Product Offering Page

The system groups and displays product offerings by service provider, option, and product in their display sequence. Each product offering consists of a quantity field, product name, unit price, unit of measure, product long description, link to product detail page and standard delivery time from the partner location that will service the zip5.

The Order Option parameters are specified at the Event Service, the Event Service Option, and the Product levels. They are

- ***New order allowed.***
- ***Renew order allowed.***
- ***COA order allowed.***
- ***Maximum order quantity.***
- ***Maximum order duration***
- ***Reorder allowed.***

The system uses the first three fields in Event Service and Product to determine how to display the quantity field(s) on the Product Offering page and use the remaining three fields in Event Service Option and Product on the Shopping Cart page to verify order integrity. For each event service, the system will reseve a column space and display the corresponding heading for each order type (i.e. new, renew, and COA) allowed. It will then check each product and display a quantity field in the corresponding column for each order type allowed. For instance, if an event service (e.g. newspaper) in general accepts COA order with the exception of one newspaper in FL, the COA Allowed for the service will be set to "True" and the COA Allowed for the products from that newspaper will be set to "False". On the screen, the user will see a column with heading "COA" and the products from that newspaper will not have a quantity box under the COA column. If one day the newspaper decides to accept COA orders, set the COA Allowed field for their products to "True" and the quantity box will show up automatically. On the other hand, if an order type (i.e. new, renew, and COA) for an event service set to "False", the system will not display a quantity colum for that order type regardless of what's allowed for the products in that service.

The user can enter the quantity for each product offering and click one of the four option buttons to proceed. They are

- "Add to Shopping Cart" will add selected items and specified quantities to the shopping cart and the system will proceed to the Shopping Cart page. If a selected item is in the shopping cart already, the quantity is always overwritten with the one from the latest Product Offering page.
- "View Shopping Cart" will NOT add selected items and specified quantities to the shopping cart. The system will proceed to the Shopping Cart page directly without the latest selections.
- "Clear Selection" will clear all the quantities on the Product Offering page.
- "Back to Service Provider" will take the user back to Service Provide page.

Shopping Cart Page

The system performs the following checks to ensure the integrity of the items in the Shopping Cart.

- *Maximum allowed quantity at product and at option level. If the user has exceeded the allowed quantity, the system will display the error message with the shopping cart and ask the user to correct the problems by either adjusting the quantity field or removing the item from the shopping cart. The user can click on the Update Shopping Cart button and the system will recalculate all the prices and redisplay the Shopping Cart page.*
- *If the product is a bundle, the system will perform the previous check for each product in the bundle. For instance, if a LD bundle contains a LD residental plan and a cable plan, the system will perform the maximum allowed quantity check for the LD and cable plans and for the LD and cable options. If the user has previously ordered a cable plan, the maximum order quantity check will fail either at the product level (same cable plan) or at the option level (different cable plan).*

Each user has his/her only shopping cart for a session. All selected product offerings are in the shopping cart before they are checked out. However, when a user goes to the Shopping Cart page for a service, the system only displays the items for that service and group them by service provider (e.g. one shopping cart section for AllBoxes and another one for Public Storage).

The field of eccLevel (extra cost calculation level) field in the ServiceParticipation table specifies if the extra costs should be calculated at order or item level. The extra calculation for an order can only be done at either the order level or the item level. The extra cost fields in the ServiceParticipation table are identical to those in the ProductOffering table. They are

- regShipCostCalcBasisId: 1 – percentage, 2 – per order.
- RegShipCost: a numeric field.
- handlingCostCalcBasisId: 1 – percentage, 2 – per order.
- handlingCost: a numeric field.

- expShipCostCalcBasisId: 1 – percentage, 2 – per order.
- expShipCost : a numeric field.
- expShipRoleId : 1 – overwrite shipCost, 2 – add to shipCost.
- *noExtraCostMin*: minimum amount for no extra costs.

If the total sales amount is >= noCostMin, there is no extra cost. Otherwise, the calculation for extra costs including regular shipping, handling, and express shipping is as follows:

Regular Shipping, Handling, and Express Shipping Costs

- If the cost calculation basis is 1, cost = sales amount x unit cost.
- If the cost calculation basis is 2, cost = unit cost.

The steps to determine the total extra costs are as follows:

- If the extra cost calculation is to be done at item level, the total regular shipping, handling, and express shipping costs for an order are equal to the sum of the shipping, handling, and express shipping costs respectively for each item on the order.
- If the express shipping cost for the order is greater than 0 and the express shipping role is 1, which is to overwrite the regular shipping cost, the shipping cost for the order is set to 0.
- The total extra cost = regular shipping cost + handling cost + express shipping cost.

The user can remove or adjust quantity of a shipping cart item on the page. If the user clicks on the Remove button, the client page will set the quantity to 0 without going back to the server.

The express shipping can only be available at either the order level or the item level for a Service Participation based on the value of eccLevel.

Below shopping cart section, the system will display the eligible upsell products. Different from cross selling, the upsell product offerings are those from the relevant upsell options within the same service. In the ServiceOption table, Transaction Services will specify

The user has three options to proceed on this page: update shopping cart, continue shopping, and checkout.

- "Update Shopping Cart" will remove the item with quantity 0, recalculate the prices, and redisplay the shopping cart page.
- "Continue Shopping" will take the user back to the Product Offering Display page with the quantities for selected items specified.
- "Checkout" will trigger the system to see if the user has a customer status for the session. If the user has created an account or logged in an existing account during the session, the visitor is said to have a customer status. With a customer status, the system will be able to retrieve saved values for the questions of the Checkout pages and provide convenience to the customer.

Login/Account Creation Page

Checkout Page

The Checkout process for a service may involve several pages for usability purposes. The purpose of each page (i.e. groups of questions to be asked) and the page sequence is pre-determined for each service (not by service participation).

In order to provide customizable checkout questions by service participation and apply 80/20 rule whenever possible, the database design elements for the Checkout pages are as follows:

- All the possible checkout questions are stored in the CheckoutQ table. Each checkout question will specify the question group to which it belongs (e.g. dayTimePhone belongs to Contact group").
- For each EventService (e.g. Moving Supplies for Move or LD for Move), the applicable checkout questions regardless of partners are stored in the EventServiceCheckoutQ table. The display sequence of each question is also specified in this table.
- The checkout questions, required only for some partners participating in a service, are stored in the ServiceParticipationCheckoutQ. The display sequence of each question is also specified in the table.

For each checkout question group, the system always displays the questions from EventServiceCheckoutQ first in the specified display sequence and then those from the ServiceParticipationCheckoutQ. The following sections describe each checkout page for the service. Generating questions dynamically is the easy part. The real work comes from validating the information entered and applying the save functions to display, retrieve and store information.

For example, we cannot display all the first names for the First Name field and the last names for the Last Name field and allow the user to match any first name with any last name. In addition, since the system does not interpret the meaning of each field (after all it's just a computer program, not human) and only displays questions by their display sequence specified in the database, TS has to be very cautious about setting up the data in the database correctly. Otherwise, the system could become unusable from the customer's point of view. Another example is the credit card information, which contains the card type, the cardholder's name, the card number, the expiration date, and the billing address. If we are going to provide meaningful convenience to customers, we need to remember the information related to a credit card as a set and enable the user to retrieve the information as a set as well.

- To accomplish the Save, Retrieve, and Display functions of relevant information as a group, we introduce the concept of Anchor field. An Anchor field is the last field in a collection of relevant fields that have to be acted upon as a group (e.g. last name field for the Name fields or a zip code field for the Address fields). Of course, the number of relevant fields in a group could be one. In which case, the Anchor field controls one and only one field, which is itself (e.g. email address or SSN).

In order to generate checkout questions dynamically based on service participation, each row will only display one checkout question. There will be no side by side display of checkout questions.

Notes for the Technology team

This section probably has the highest technical difficulty in the entire site and may require several experiments to finalize all the details.

The Servlet has the following responsibilities.

- Get all the questions for the Service Participation and organize them by question group and display sequence.
- Examine each question to be displayed on the next JSP to see if it is an Anchor Field. If it is, invoke the corresponding method to assign values to the fields for which the field is anchoring. The easiest case will be that an Anchor field is the only field in the group. The more complicated case will be the Last Name field for the Name group.
- The Servlet will then invoke the JSP for the next Checkout page.
- After the JSP pushes the page to the user's browser, the user will enter information and send the page back to the Servlet, which has to invoke the corresponding method of each anchor field to check the contents for validity (e.g. address standardization, new name, etc.).

The Checkout page JSP has the following responsibilities.

- Display Question Group heading and description.

- Display each question in the question group in the display sequence. Each question will display pre-populate value if possible. The JSP will also see if the question is an Anchor question. If yes, right below the question, the JSP will display all the saved values for the group for which the field is anchoring.

Checkout Page 1 – Shipping and Contact Question Groups

Shipping question group comes before the Contact question group.

The questions for Shipping question group are as follows:

- First name, middle name, last name.
- Ship_to address.
- Shipping method.

The questions for Contact question group are as follows:

- Daytime phone #
- Evening phone #
- Email address

After the user clicks on Continue button, the system (the Servlet) will check the user input by invoking methods to verify all the Anchor fields. If any field content has data entry errors, the system will return to this page with appropriate error messages and request the user to correct the problems before proceeding.

Checkout Page 2 Billing Question Groups

The questions for Blling question group are as follows:

- ***Credit card type, cardholder name, credit card number, expiration date, and billing address.***

Checkout Page 3 – Order Confirmation

The system will display the shopping cart and order information and request the user to confirm the order. After the user clicks on the Confirm button, the order is saved and the system will proceed to the next page.

Checkout Page 4 – Save Confirmation

The system will display three Save options and request the user to choose one.

- Save all information including credit cards.
- Save all information excluding credit cards.
- Don't save.

Based on the user's decision, the system will save the information appropriately.

Issue

- Should we pre-populate the zip5 field based on the information the user has entered? Include the question in 2/3 foucs group.
- ~~Do we need to provide zip code lookup at Service Start Page?~~ Yes, but need UI. (JT)
- Need the format for Service Provider page when no service provider is available. (JT)
- ~~What are the three links at the bottom of the Service Start page – home, shopping, and communication center?~~ Nothing. They are not supposed to be there. Need to reflect in UI. (SB)
- Need the mockup to allow a customer to choose multiple service providers on the Service Provider page. In the

last meeting, we said we did not want a customer to go through the routine to click on the same options for multiple service providers. Need to reconfirm this. (SB)

- If a customer orders a local phone service, do we need to check if the customer orders something that may contain local phone service again? If so, what do we do when the customer orders it again? Also, how do we introduce multiple move capabilities so that when the person moves again, we will not be bugging the person by saying "order the local phone service again? order the LD again? order the cable again? You moron."
- ~~No exclusion logic built in at this time based on referral source.~~ OK.
- Do we need to update the status of checklist item? Yes, but it will be inconsistent since the customer may or may not log in. (SB, JT)
- How to determine the display sequence of service providers? We want to do it by session, which could be technically challenging. (SM)
- The delivery time is shown only for the first product offering, which could be difficult to find because a customer may not go through each product description in its entirety. Should it be beside the partner logo? (JT, SB)
- How are we going to show the shopping cart information? How many versions do we need? Probably two – one for product offering that can have a price associated with it and the other one does not. But what to do if a service has both items (e.g. LD and pre-paid calling cards). So, maybe we should have only one. If there is no price associated with it, we put N/A in the field and exclude it from the total cost calculation. How are the shipping charge, express shipping charge, and handling charge going to be displayed? (JT)
- ~~What kind of shopping cart checking do we have to do regarding product offering selections?~~
  - ~~Maximum order quantity (e.g. 1 for each LD residential products)~~
  - ~~Maximum product offerings per option (e.g. cannot order 2 different LD residential plan)~~
- If a user visited a Product Offering page before during the same session, selected some items, and moved on to another service without checking out for the service), should we display the previously entered quantities for the selected items? If not, will the user say what happened to what I did before? If yes, will the users say what is happening here about those quantities if they forgot they had been to the page before? (JT)
- Since the Checkout is done at the Service level because the Checkout questions could vary all the way down to the ServiceParticipation level (by service and by partner), what do we need to do to ensure people understand they have to check out for each service? Otherwise, they may think they can just check everything out all at once at the end, which is the norm for sites providing singular services such Amazon.com or CDNow? (JT, SB)
- What do we need to do so that the users will understand the differences between "Add to Shopping Cart" and "View Shopping Cart" options on the Product Offering page? (SB)
- "Back to Service Provider" is missing from the UI. (SB)
- Need to finalize the Login/Account Creation page. (SB)
- If the checkout questions are based on the product ordered (e.g. hardware for local phone), the dynamic generation of Checkout questions will be a nightmare for data entry from Transaction Service's point of view and for development and response time from Technology's point of view. (JT)
- Do we need to supply Deletion and/or Edit functions for a saved value? Need UI. (SB)
- ~~No order start date is specified for on the Checkout page. What if the customer does not want to receive the goods until two weeks from now?~~ By service.
- ~~Is the payment type field on the Checkout page the same as credit card name?~~ Yes. But still need 2 fields in case of Bill me Later.
- ~~If a partner is both service provider and distribution channel, do we set up one or two partner records? Recommend 2.~~ Yes.
- If we are going to show 2 service providers on each row and then the options they participate beneth them, how would a customer feel when there are 6 service providers for that that area? The page is going to be long and could be cumbersome for a customer to go though. (JT)
- Need all exact error messages. (JT)
- Do we display product offerings by partner and then option or by option and then partner? Need to make sure we do not create an environment that customers choose A from partner 1 and B from partner 2 although they meant A and B from partner 1. (JT).
- Do we overwrite and add to shopping cart items when a customer goes back from Shopping Cart to Product Offering and then to Shopping Cart again? (JT)
- ***Where should the recall button be on the Checkout page in case the user wants to log in and take advatage of***

the saved values? Need UI as well on how to allow the user to log in while staying on the Checkout page. (JT)

- *What is the policy to validate credit card? Got to be careful on its credit limit impact. Since we don't plan to settle the transaction, what role does credit card validation play for services in addition to ICOA? (JT)*
- *If the user did not log in while ordering products, the shopping cart cannot check to see if the user has previously ordered the product. After the user proceeds to the Checkout page and recalls the customer account, what should we do? The user may have ordered somethig again that should only be ordered once per move. Do we call the shopping cart again at that time to check for duplicated orders or we just move on with the Checkout pages without going back to check for order integrity issues? (JT)*
- *Is reorderAllowed check necessary or is it coved by the maximum quantity check? (SM, AB)*
- *Do we display the marketing questions on the Order Confirmation page? (JT)*
- *If a customer wants to change account information such as password and reminder question/answer, how can he/she do it? (SB,JT)*
- *What are the unique contraints on a cusotomer (e.g. user name, password, email address,credit card number, etc.)? (JT)*
- *Can a credit card have a foreign billing address? (SB,JT)*

Change Request

- Change Dependent Option to option type. Add upsell Option table with parent and child options.

Action Diagram

Data Access

Procedure
Provide Long Distance Phone Service

Doer
System

Description

Service Start Page

The Service Start page is identical to the one for Moving Supplies with the following exceptions.

- The user will enter an address instead of a zip5 to locate the service providers. The system will standardize the address and use the zip9 to locate service providers.

Service Provider Page

The Service Provider page is identical to the one for Moving Supplies with the following exceptions.

- None.

Product Offering Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Shopping Cart Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Login/Account Creation Page

Checkout Page

The Checkout pages are identical to those for Moving Supplies in functionality with the following exceptions.

- None.

Checkout Page 1 – Shipping and Contact Question Groups

Shipping question group comes before the Contact question group.

The questions for Shipping question group are as follows:

- Connect date.
- First name, middle name, last name.
- Installation address(?).

The questions for Contact question group are as follows:

- Email address
- Home phone #
- Work phone #
- Best Time to Call
- Best Date to Call
- New phone #

Checkout Page 2 – Billing Question Group

The questions for Billing question group are as follows:

- Payment type.
- Credit card type, cardholder name, credit card number, expiration date, and billing address.

If the payment type is of credit card, the system will perform the AVS and IVS check (?). If the payment type is pf "billing me", the system will standarize the billing address.

Checkout Page 3 – Order Confirmation

The same as Moving Supplies.

Checkout Page 4 – Save Confirmation

The same as Moving Supplies.

Issue

- How to ask Checkout questions for bundles? If a bundle contains products from different services (e.g. cable, wireless), each service according to its own term sheet has different checkout questions to ask. Handling dynamic checkout questions by service and service participation is tough enough. Taking it to the next level by product or by combination of services will be even more challenging (or you can call it a nightmare) in terms of development and run time (it can take a long time to find all the checkout questions at all levels and all combincations, eliminate all the duplicated questions, and then present the questions to the user). In addition, if TS does not set up questions in the right question group to eliminate duplicated questions, the same question could be asked several times in each question group. One way to deal with it is that the checkout questions for a bundle stop at the service participation level to which the bundle belongs.
- Does the system need to remember the address entered on the Service Start page to be used at Checkout page?
- If the user has entered an address for LD, can we use that address for Cable at Service Start page?
- Do we need to use the same logic at Checkout page to show what addresses or zip5s the user has entered so that he/she can choose from one of them? Include this in the focus group on 2/3.
- Do we still need to display checkbox instead of the regular quantity box on the Product Offering page when the maximum order quantity is 1?
- The Shopping Cart and Upsell are on two pages now instead of 1 page, which shows Shopping Cart first and then upsells.
- The billing address is specified in the Contact question group. Should it be in the Billing question group to be consistent with other services? Also, according to the term sheet, we are going to ask for the billing address before the payment type. Need UI to be in sync as well.
- Connect Date field is missing from the term sheet.
- There is no installation address fields on the term sheet. Need to sync UI with the term sheet.
- What's the difference between the daytime phone # and evening phone # for Moving Supplies and home phone # and work phone # for LD?
- Will we have payment type of eBill? If so, do we need to ask for the eBillingAddress?
- UI specifies additional questions such as SSN and Driver's License/State for the Billing question group. We presume they are service participation based questions.

Action Diagram

Data Access

Procedure
Provide ISP Service

Doer
System

Description

Service Start Page

The Service Start page is identical to the Moving Supplies with the following exceptions.

- The user will enter an address instead of a zip5 to locate the service providers. The system will standardize the address and use the zip9 to locate service providers.

Service Provider Page

The Service Provider page for Cable is identical to the one for Moving Supplies with the following exceptions.

- None.

Product Offering Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Shopping Cart Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Login/Account Creation Page

Checkout Page

The Checkout pages are identical to those for Moving Supplies in functionality with the following exceptions.

- None.

Checkout Page 1 – Shipping and Contact Question Groups

Shipping question group comes before the Contact question group.

The questions for Shipping question group are as follows:

- Connect date.
- First name, middle name, last name.
- Ship to address (?).

The questions for Contact question group are as follows:

- Email address
- Home phone #
- Work phone #
- Best Time to Call
- Best Date to Call
- New phone #

Contact Information

First Name

Middle Initial

Last Name

Ship-to Address

Day Phone

Day Fax

Home Phone

Home Fax

Billing Information

Payment Type

Credit Card Name

Credit Card #

Credit Card Expiration Date

Credit Card Address

Marketing Questions

Desired Media

Checkout Page 2 – Billing Question Group

The same as Moving Supplies.

Checkout Page 3 – Order Confirmation

The same as Moving Supplies.

Checkout Page 4 – Save Confirmation

The same as Moving Supplies.

Issue

- Should we standarize the categorization of checkout questions? We can look at the checkout questions for Moving Supplies, LD, and Cable as examples. Some questions are classified as Contact questions for one service and Shipping or Billing for ther other.

Action Diagram

Data Access

Procedure
Provide Local Phone Service

Doer
System

Description

Service Start Page

The Service Start page is identical to the Moving Supplies with the following exceptions.

- The user will enter an address instead of a zip5 to locate the service providers. The system will standardize the address and use the zip9 to locate service providers.

Service Provider Page

The Service Provider page for Cable is identical to the one for Moving Supplies with the following exceptions.

- None.

Product Offering Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Shopping Cart Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Login/Account Creation Page

Checkout Page

The Checkout pages are identical to those for Moving Supplies in functionality with the following exceptions.

- None.

Checkout Page 1 – Shipping and Contact Question Groups

Shipping question group comes before the Contact question group.

Checkout Page 2 – Billing and Credit Question Group

The same as Moving Supplies.

Checkout Page 3 – Order Confirmation

The same as Moving Supplies.

Checkout Page 4 – Save Confirmation

The same as Moving Supplies.

Issue

- Need UI for Local Phone to confirm the Billing and Credit Question groups are on the same page.
- There are many similar fields with different names for each service (e.g. ship-to address, installation address, service address, etc.). Can we standardize on those fields on a matrix between field name and service? Later on, when we start a new service or bring on a new service provider, should we check this matrix first to see if we can use previously defined fields before creating a new one? Each new field requires a new program for saving and validation purposes and we should consolidate the fields with the same purposes. The same field can have different heading when it is displayed by service participation. Therefore, we should not create a new field because it will be called differently for a service or a service participation.

Action Diagram

Data Access

Procedure
Provide Wireless Service

Doer
System

Description

Service Start Page

The Service Start page is identical to the Moving Supplies with the following exceptions.

- None.

Service Provider Page

The Service Provider page for Cable is identical to the one for Moving Supplies with the following exceptions.

- None.

Product Offering Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Shopping Cart Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Login/Account Creation Page

Checkout Page

The Checkout pages are identical to those for Moving Supplies in functionality with the following exceptions.

- None.

Checkout Page 1 – Shipping and Contact Question Groups

Shipping question group comes before the Contact question group.

Checkout Page 2 – Billing and Credit Question Group

The same as Moving Supplies.

Checkout Page 3 – Order Confirmation

The same as Moving Supplies.

Checkout Page 4 – Save Confirmation

The same as Moving Supplies.

Issue

Action Diagram

Data Access

Pr cedure
Provide Pets Service

Doer
System

Description

Service Start Page

The Service Start page is identical to the Moving Supplies with the following exceptions.

- None.

Service Provider Page

The Service Provider page for Cable is identical to the one for Moving Supplies with the following exceptions.

- None.

Product Offering Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Shopping Cart Page

The Product Offering page is identical to the one for Moving Supplies with the following exceptions.

- None.

Login/Account Creation Page

Checkout Page

The Checkout pages are identical to those for Moving Supplies in functionality with the following exceptions.

- None.

Checkout Page 1 – Shipping and Contact Question Groups

Shipping question group comes before the Contact question group.

Checkout Page 2 – Billing and Credit Question Group

The same as Moving Supplies.

Checkout Page 3 – Order Confirmation

The same as Moving Supplies.

Checkout Page 4 – Save Confirmation

The same as Moving Supplies.

Issue

- Need UI for store locator, etc.

Action Diagram

Data Access

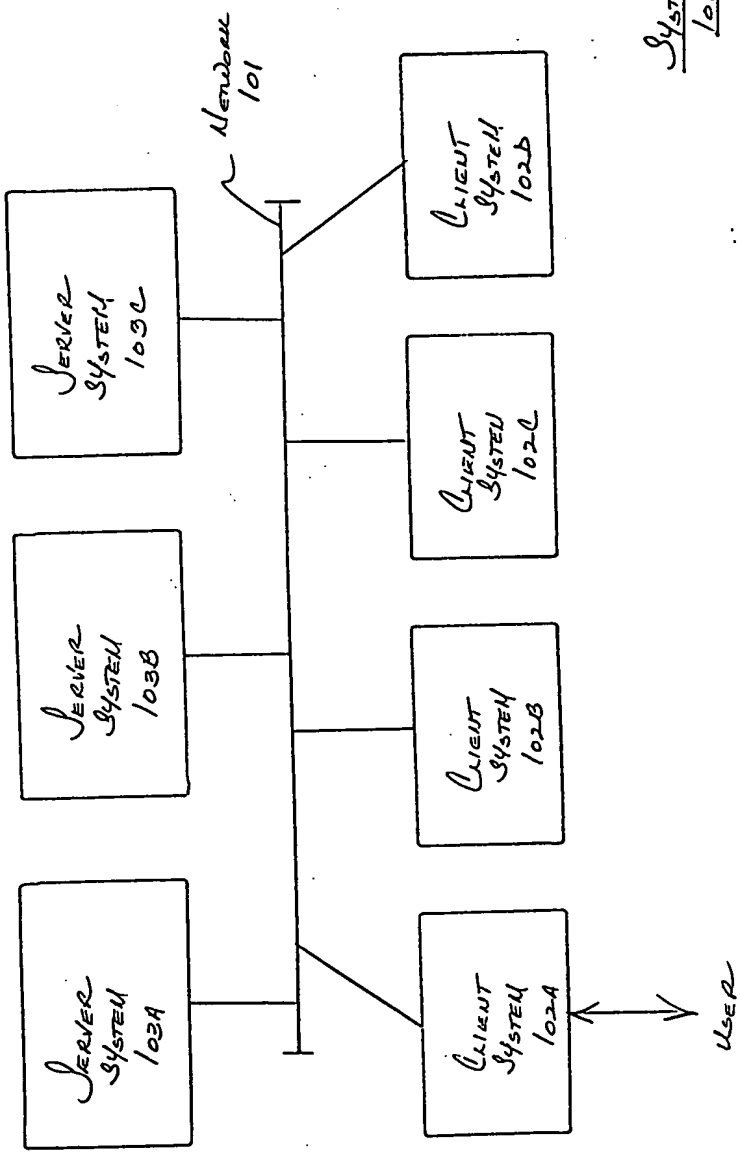
System
100
Network
101
Server System 103A
Server System 103B
Server System 103C
Client System 102A
Client System 102B
Client System 102C
Client System 102D
User Input/Output 104

Figure 1

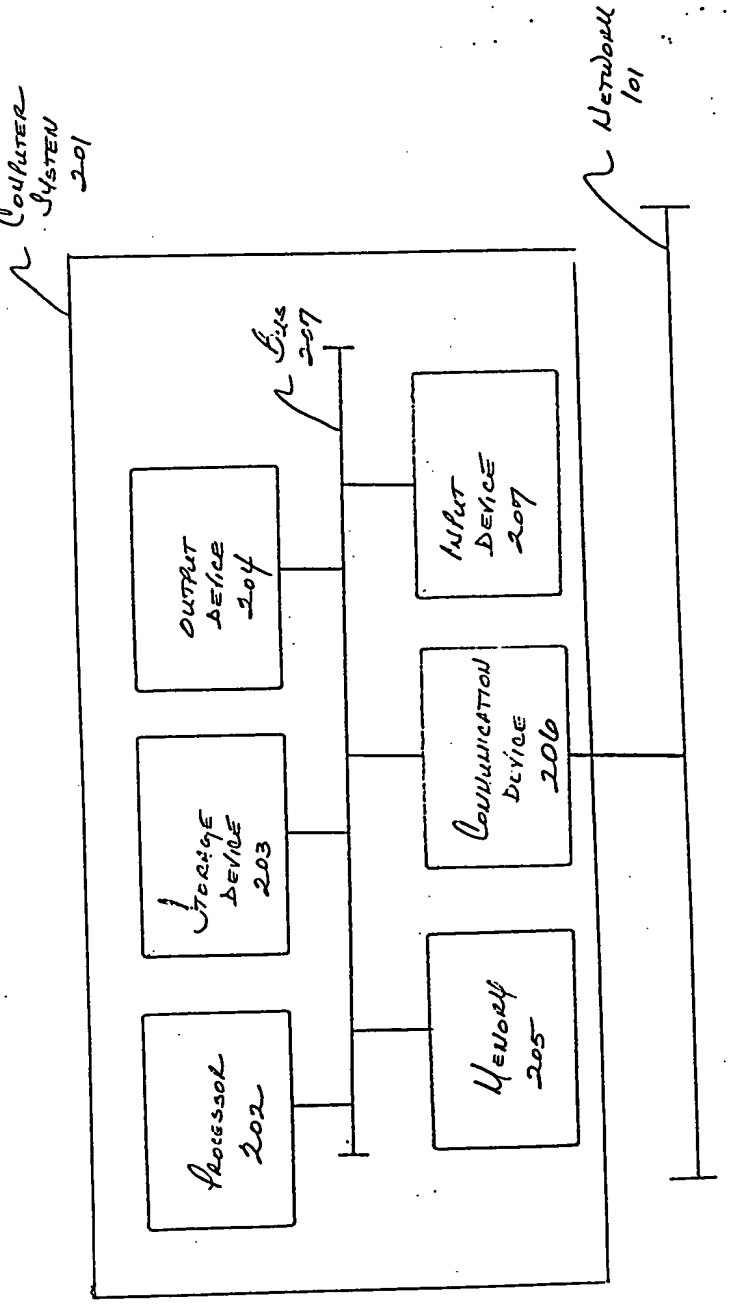
Computer System 201
Network 101
Bus 209
Processor 202
Storage Device 203
Memory 205
Communication Device 206
Input Device 207
Output Device 204

Figure 2

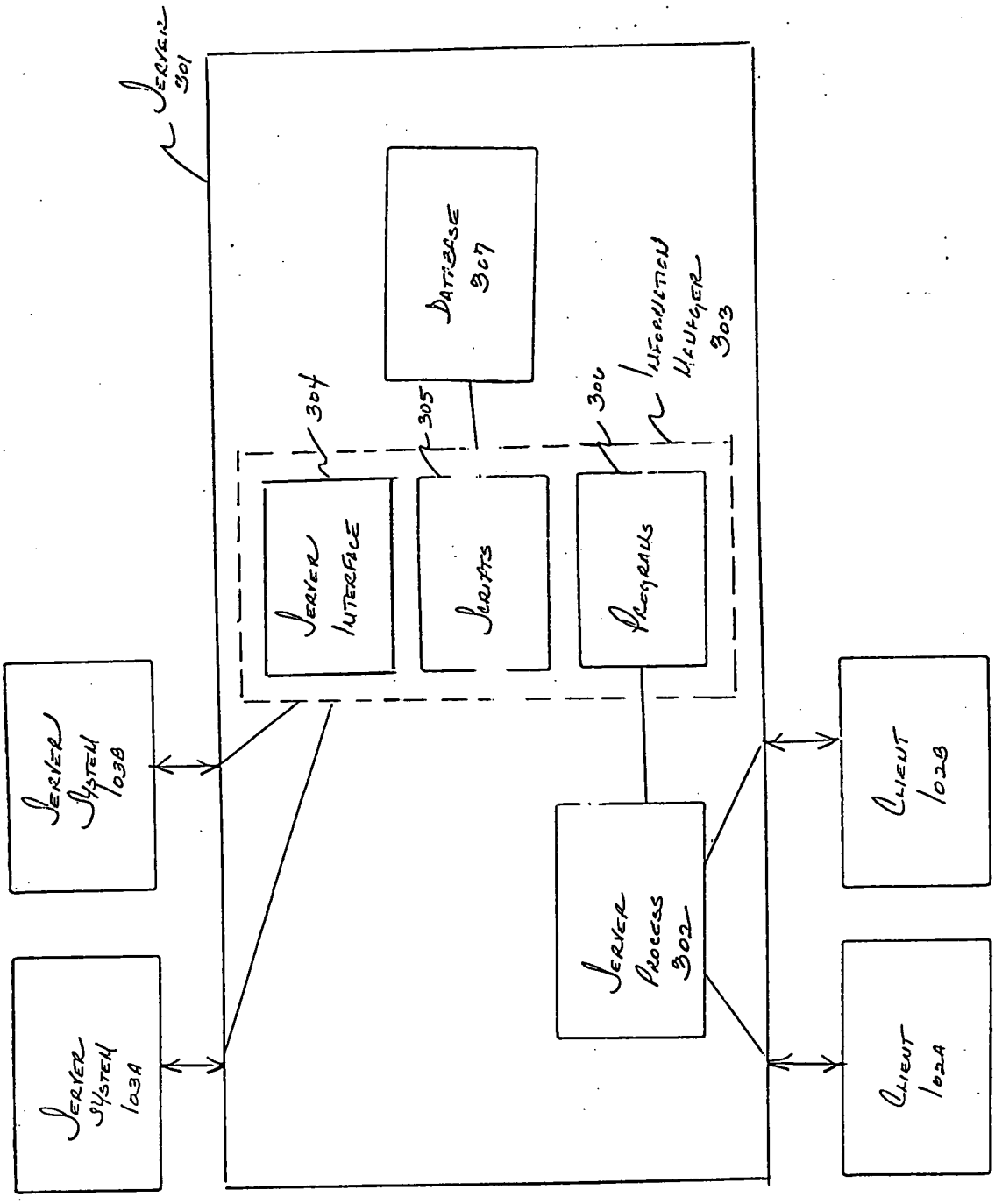
Server
301
Database
307
304
305
306
Integration
Manager
303
Server
Interface
Scripts
Programs
Server
System
103B
Server
System
103A
Server
Process
302
Client
102B
Client
102A

Figure 3

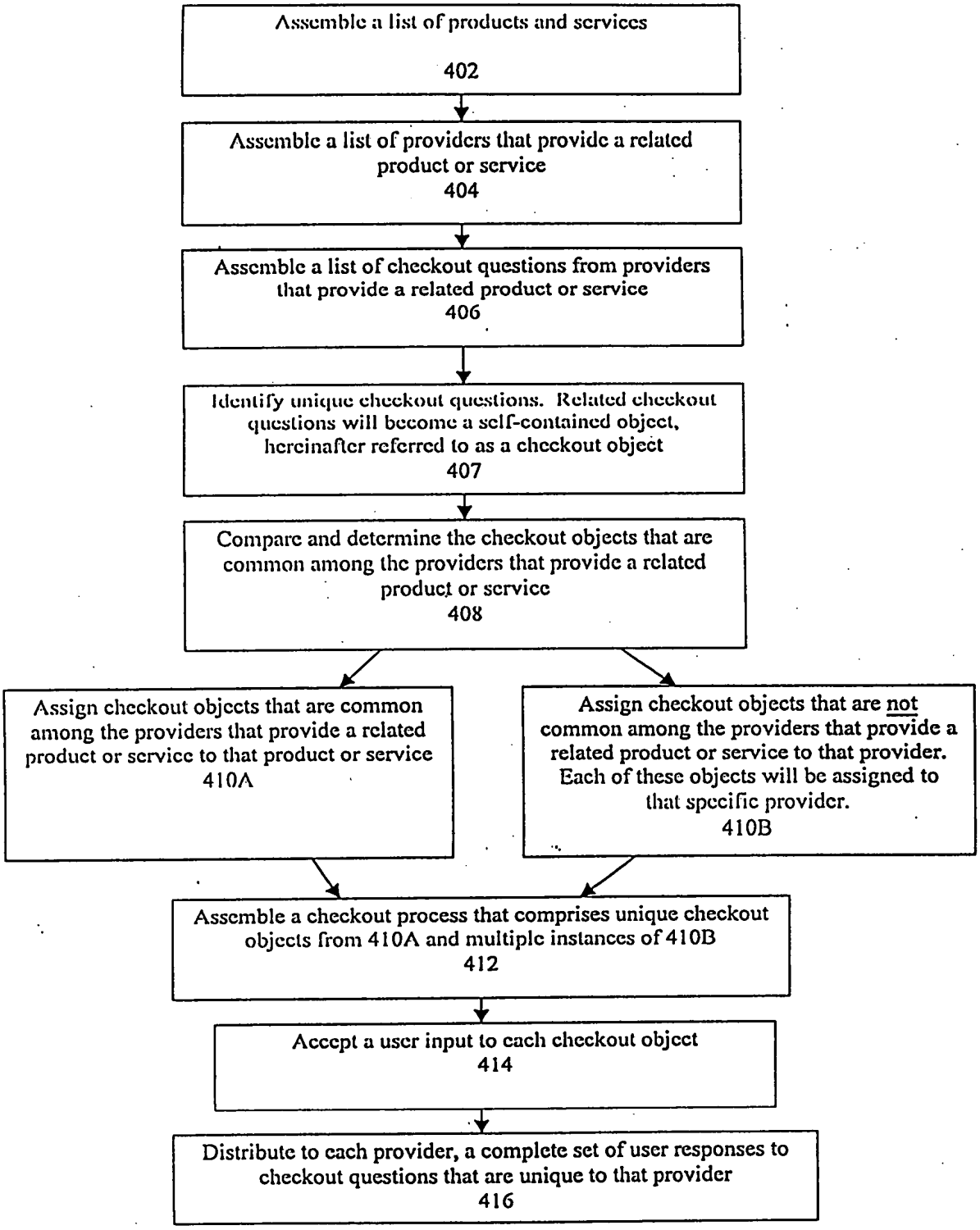
Assemble a list of products and services
402
Assemble a list of providers that provide a related product or service
404
Assemble a list of checkout questions from providers that provide a related product or service
406
Identify unique checkout questions. Related checkout questions will become a self-contained object, hereinafter referred to as a checkout object
407
Compare and determine the checkout objects that are common among the providers that provide a related product or service
408
Assign checkout objects that are common among the providers that provide a related product or service to that product or service
410A
Assign checkout objects that are not common among the providers that provide a related product or service to that provider. Each of these objects will be assigned to that specific provider.
410B
Assemble a checkout process that comprises unique checkout objects from 410A and multiple instances of 410B
412
Accept a user input to each checkout object
414
Distribute to each provider, a complete set of user responses to checkout questions that are unique to that provider
416

FIGURE 4

SYSTEM AND METHOD FOR SHARING INFORMATION AMONG PROVIDER SYSTEMS, Kae-por F. Chang
Serial N . 09/929,519

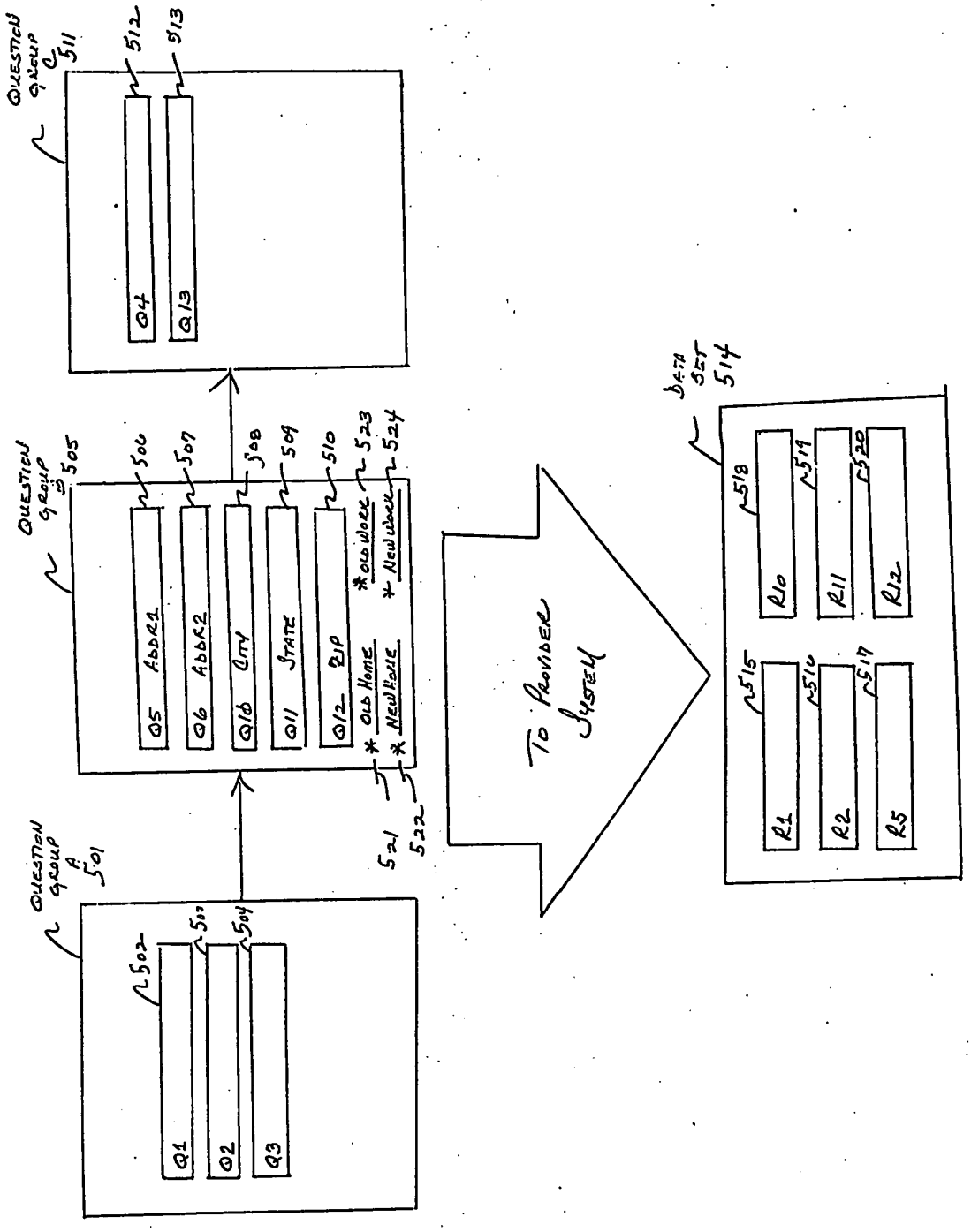

Figure 5

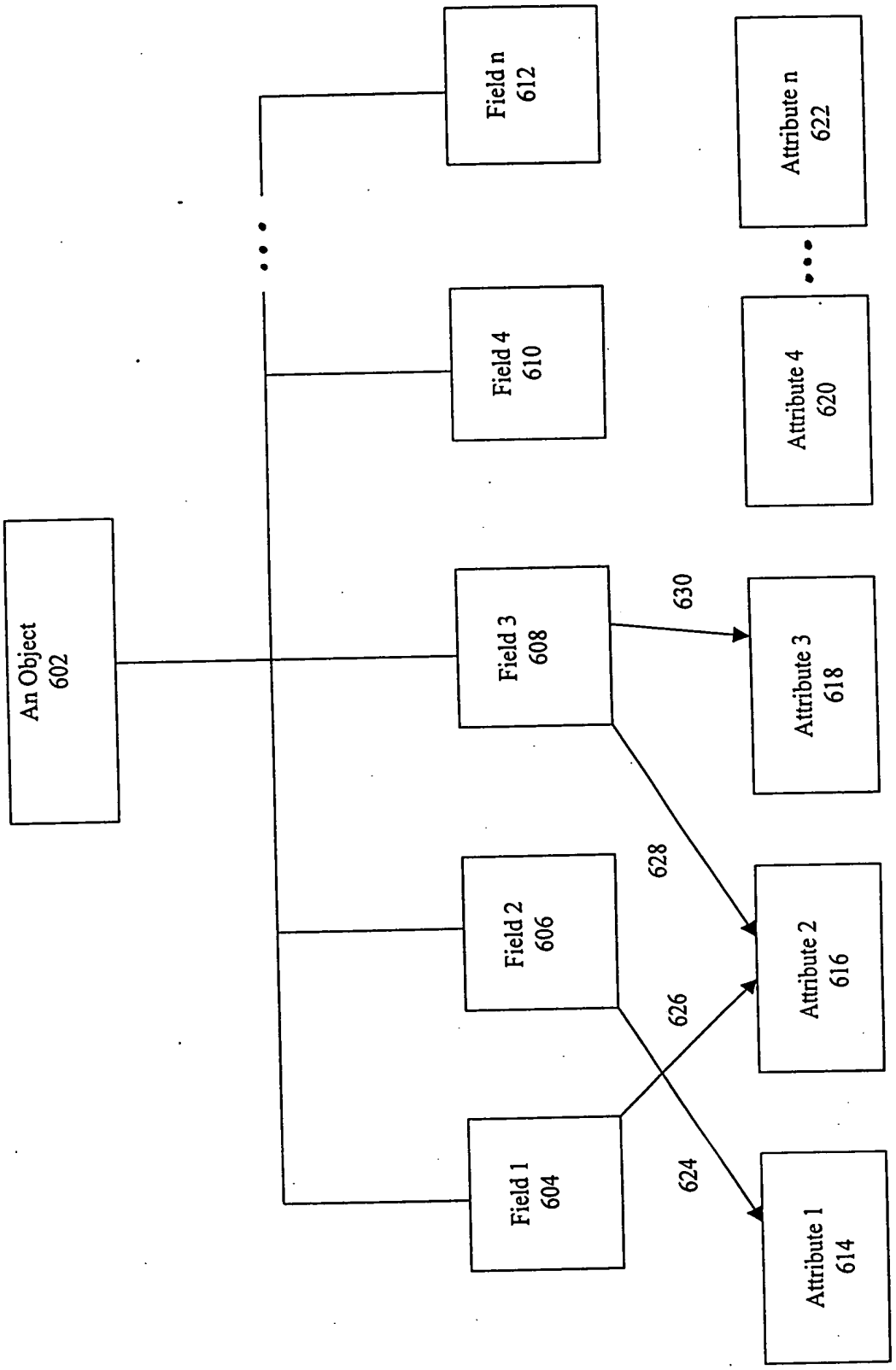
An Object
602
Field 1
604
Field 2
606
Field 3
608
Field 4
610
Field n
612
Attribute 1
614
Attribute 2
616
Attribute 3
618
Attribute 4
620
Attribute n
622
624
626
628
630

FIGURE 6

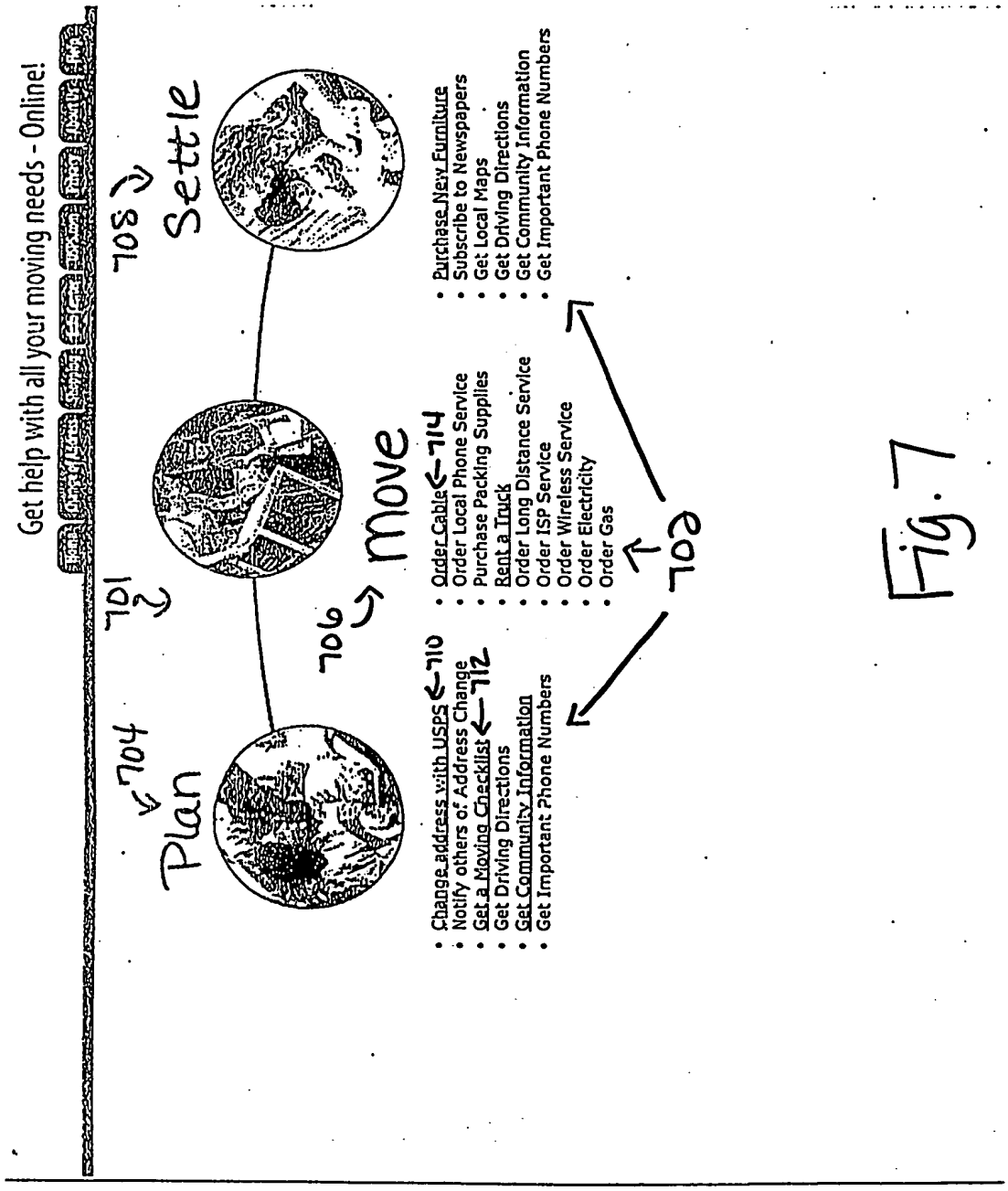
Get help with all your moving needs - Online!
Plan
704
701
Move
706
Settle
705
• Change address with USPS ← 710
• Notify others of Address Change
• Get a Moving Checklist ← 712
• Get Driving Directions
• Get Community Information
• Get Important Phone Numbers
• Order Cable ← 714
• Order Local Phone Service
• Purchase Packing Supplies
• Rent a Truck
• Order Long Distance Service
• Order ISP Service
• Order Wireless Service
• Order Electricity
• Order Gas
702
• Purchase New Furniture
• Subscribe to Newspapers
• Get Local Maps
• Get Driving Directions
• Get Community Information
• Get Important Phone Numbers

Fig. 7

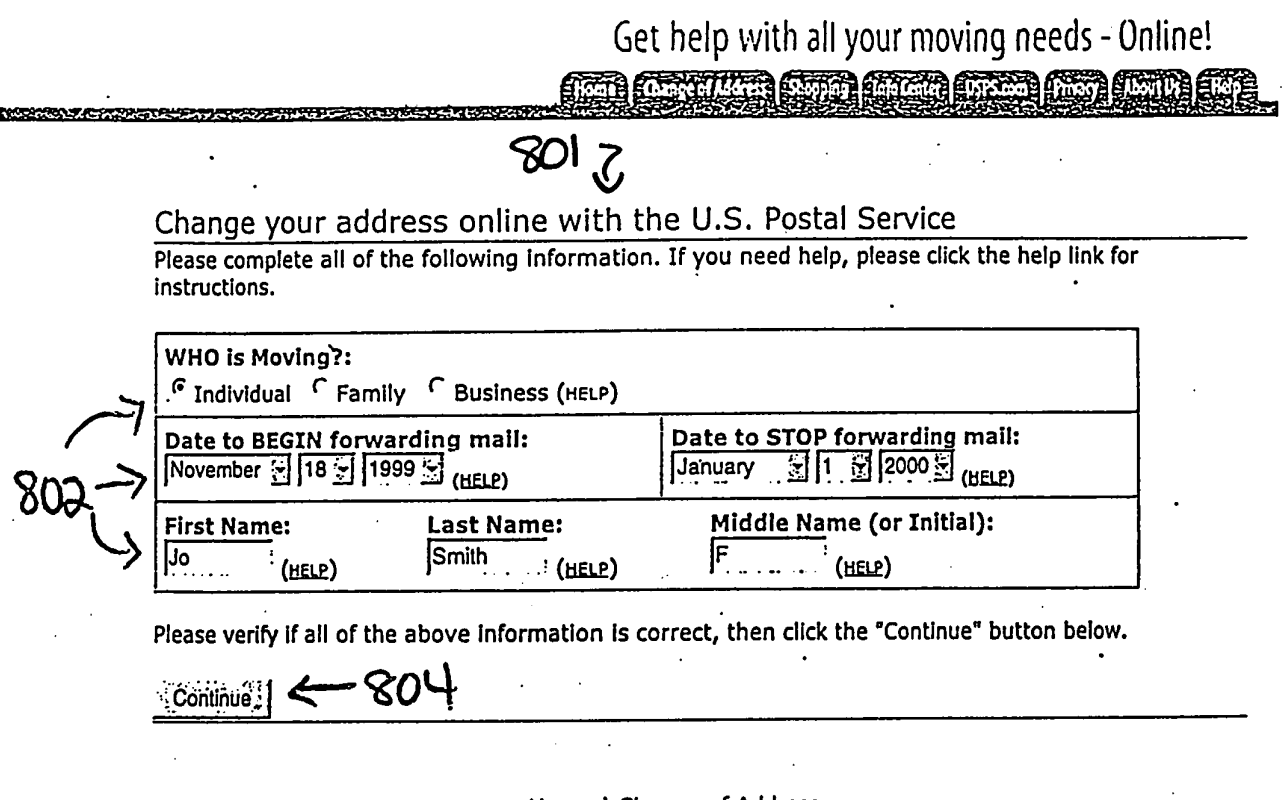
Get help with all your moving needs - Online!
Home
Change of Address
Shopping
Info Center
USPS.com
Privacy
About Us
Help
801
Change your address online with the U.S. Postal Service
Please complete all of the following information. If you need help, please click the help link for instructions.
WHO is Moving?:
Individual
Family
Business (HELP)
802
Date to BEGIN forwarding mail:
November
18
1999
(HELP)
Date to STOP forwarding mail:
January
1
2000
(HELP)
First Name:
Jo
(HELP)
Last Name:
Smith
(HELP)
Middle Name (or Initial):
F
(HELP)
Please verify if all of the above information is correct, then click the "Continue" button below.
Continue
804
Home | Change of Address

Fig. 8

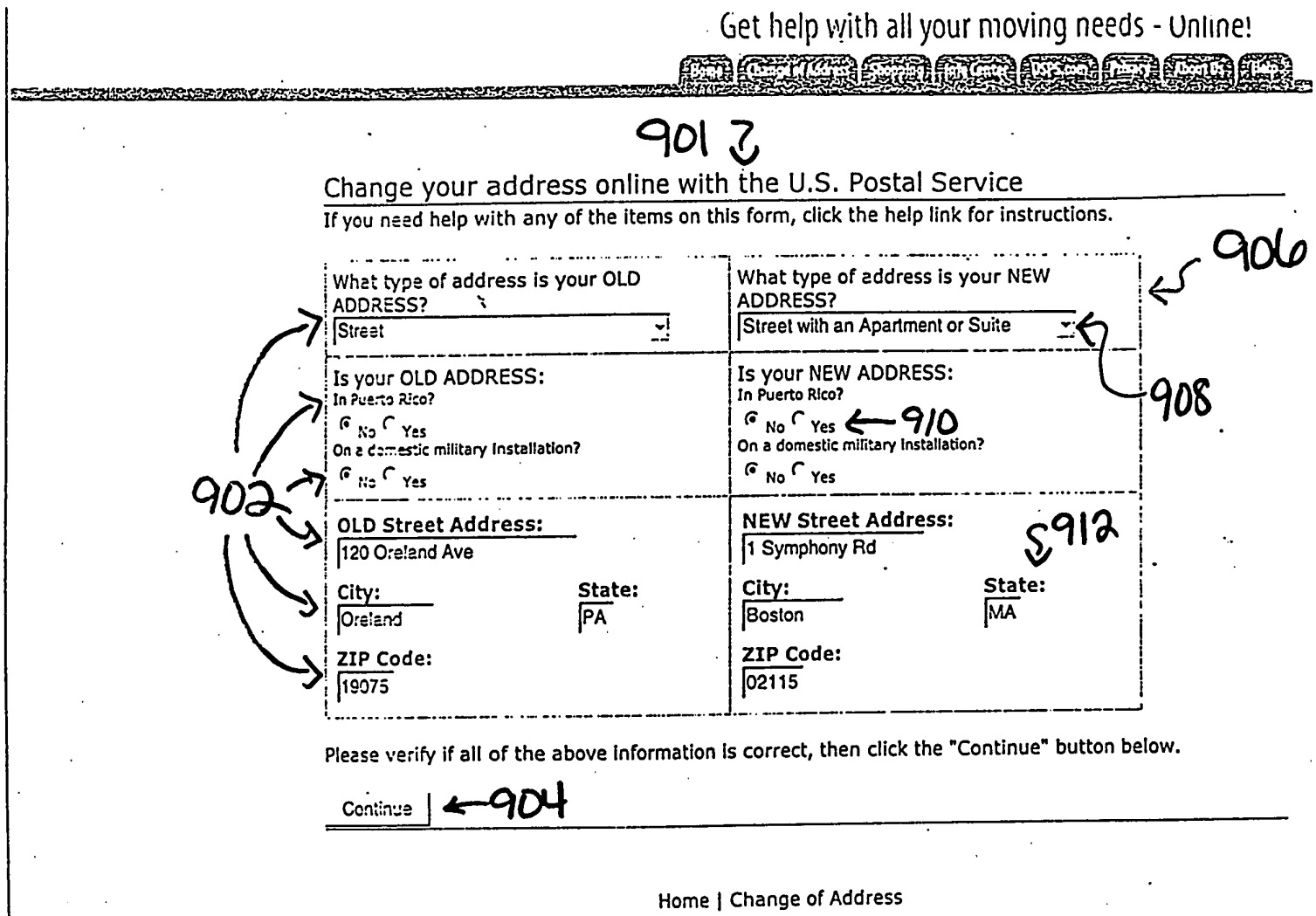
Get help with all your moving needs - Online!
901
Change your address online with the U.S. Postal Service
If you need help with any of the items on this form, click the help link for instructions.
What type of address is your OLD ADDRESS?
Street
What type of address is your NEW ADDRESS?
Street with an Apartment or Suite
906
908
Is your OLD ADDRESS:
In Puerto Rico?
No Yes
On a domestic military installation?
No Yes
Is your NEW ADDRESS:
In Puerto Rico?
No Yes
910
On a domestic military installation?
No Yes
902
OLD Street Address:
120 Oreland Ave
NEW Street Address:
1 Symphony Rd
912
City:
Oreland
State:
PA
City:
Boston
State:
MA
ZIP Code:
19075
ZIP Code:
02115
Please verify if all of the above information is correct, then click the "Continue" button below.
Continue
904
Home | Change of Address

Fig. 9

Get help with all your moving needs - Online!

1001

Change your address online with the U.S. Postal Service

Please check all of the following information for accuracy. If you need to make changes, please use the browser "Back" button. Otherwise, click "Continue".

Who is Moving?: INDIVIDUAL		
First Name: Jo	**Last Name:** Smith	**Middle Name/Initial:** F
Date to begin forwarding mail: November 18, 1999		**Date to stop forwarding mail:** January 1, 2000
Old Address		**New Address**
Street Address: 120 Orlando Ave		**Street Address:** 1 Symphony Rd
City: Oreland	**State:** PA	**City:** Boston **State:** MA
ZIP Code: 19075		**ZIP Code:** 02115

Continue ← 1004

Home | Change of Address

Fig. 10

SYSTEM AND METHOD FOR SHARING INFORMATION AMONG PROVIDER SYSTEMS, Kae-por F. Chang
Serial No. 09/929,519

1101

Create your customized moving checklist

Please complete all of the following information and MoversGuide will create a checklist of things to do before, during, and after your move.

1. Are you moving yourself?	○ Yes ○ No
2. Are you moving with children?	○ Yes ○ No
3. Are you moving with pets?	○ Yes ○ No
4. Are you moving to a different state?	○ Yes ○ No
5. Are you buying a home?	○ Yes ○ No
6. Will you be renting a truck	○ Yes ○ No
7. Will your move be part of a corporate relocation?	● Yes ○ No

Create Checklist

FIG. 11

SYSTEM AND METHOD FOR SHARING INFORMATION AMONG PROVIDER SYSTEMS, Kae-por F. Chang
Serial No. 09/929,519

1201

CommunityCENTER

Find Community Information Online

Boston, Massachusetts

The world knows Boston for Brahminism and baked beans; creme pie and cod; Revere's ride, and that splash of tea in 1773. Locals know "the Hub" for its unnavigable cart paths, loony drivers and love-hate relationship with the Red Sox.

Attitude, history and style run rampant on this city's cobblestoned streets, where the gridlocked masses go to creative extremes just to "pahk their cahs." Ah, the Boston Accent -- defined by top linguists as "one-third Harvard, one-third hick and one-third mick." (Visitors: Consult the Wicked Good Guide to Boston English for help ordering a grinder and a frappe at the spa.)

From the tony shops of Newbury Street to the North End espresso huts, each Boston neighborhood impresses its own distinctive charm. And an hour drive in any direction produces a choice view of beach, forest or mountain.

Olde as Boston's soul may be, it is spry on the surface. With more than 60 colleges and universities, the beantown claims the highest student population in the U.S. That coupled with its forefront status in the biotech industry guarantees -- and delivers -- a population of sheer brainiacs.

So when you roll in to town with your normal accent and ask a native, "Where can I get scrod around here?"; don't be surprised if the response is something like, "How delightful to hear the pluperfect subjunctive."

FIG. 12

SYSTEM AND METHOD FOR SHARING INFORMATION AMONG PROVIDER SYSTEMS, Kae-por F. Chang
Serial No. 09/929,519

1301

CommunicationsCENTER

You have chosen Cable Service.

Would you like to: ← 1302

- Connect
- Disconnect
- Connect and Disconnect

Continue ← 1304

Home | Cable

FIG. 13

SYSTEM AND METHOD FOR SHARING INFORMATION AMONG PROVIDER SYSTEMS, Kae-por F. Chang
Serial N . 09/929,519

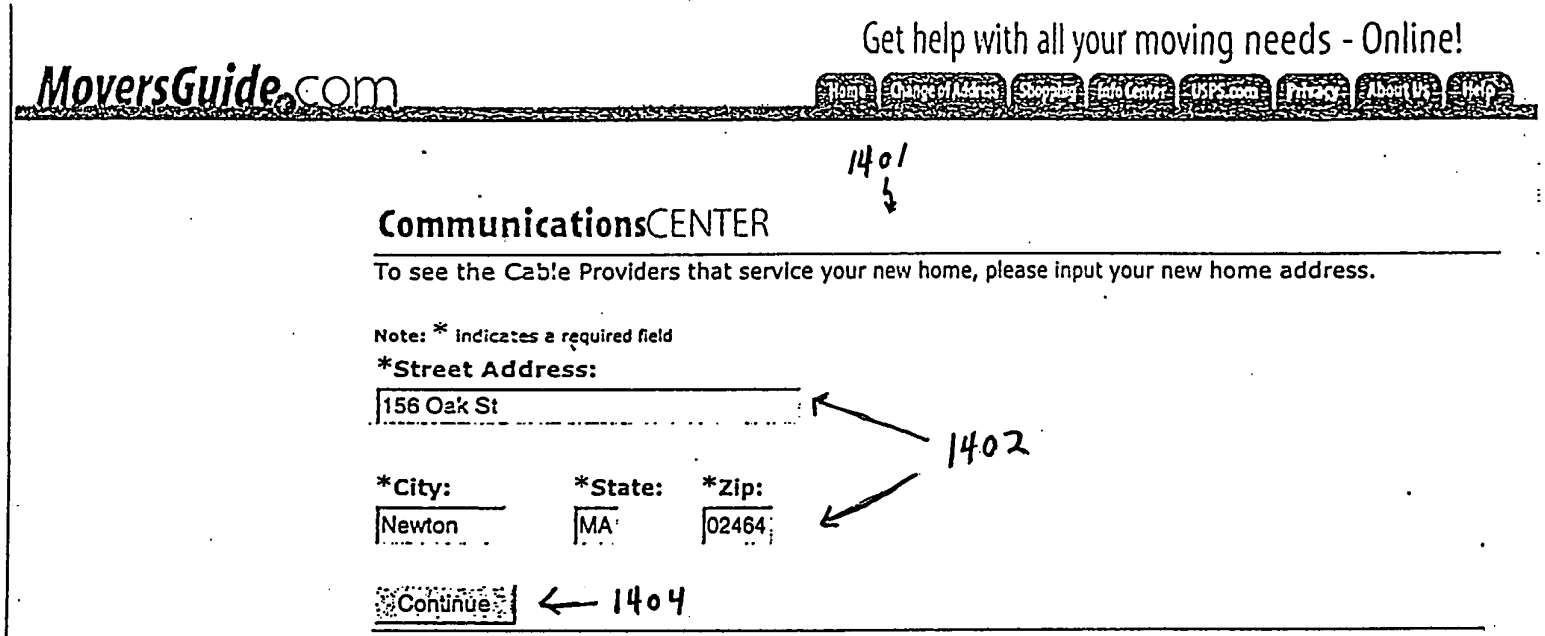
MoversGuide.com
Get help with all your moving needs - Online!
1401
CommunicationsCENTER
To see the Cable Providers that service your new home, please input your new home address.
Note: * indicates a required field
*Street Address:
156 Oak St
1402
*City:
Newton
*State:
MA
*Zip:
02464
Continue
1404
Home | Cable

FIG. 14

CommunicationsCENTER

Search Location:156 Oak St Newton, MA 02464 Change My Location

These are the cable providers who offer services in your area. Please select the provider and services you would like to learn more about.

PROVIDER 1 ← 1510	PROVIDER 2 ← 1512
Show Me: ← 1506 (•) Cable Only ( ) Cable, plus other savings on communications!	Show Me: ← 1508 ( ) Cable Only ( ) Cable, plus other savings on communications!

Continue ← 1504

Home | Cable

FIG. 15

1601

CommunicationsCENTER

Search Location:156 Oak St Newton, MA 02464 Change My Location

Cable by AT&T

☐ **Total Communications Bundle** Price: $49.95

For the first time, you can get everything you need from one place. Sign up now to enjoy 33% savings on all your communications needs.

More Information Channel Lineup

1602

☐ **One Rate Bundle** $69.99

Some of our providers offer bundles which provide special savings on combinations of communication services..We will automatically show you the bundles available in your area given your selection above.

More Information Channel Lineup

☐ **Optimum Service** Price: $0.00

Some of our providers offer bundles which provide special savings on combinations of communication services. We will automatically show you the bundles available in your area given your selection above.

More Information Channel Lineup

☐ **Optimum Plus Service** Price: $0.00

Some of our providers offer bundles which provide special savings on combinations of communication services. We will automatically show you the bundles available in your area given your selection above.

More Information Channel Lineup

Continue 1604

Home | Cable

FIG. 16

SYSTEM AND METHOD FOR SHARING INFORMATION AMONG PROVIDER SYSTEMS, Kae-por F. Chang
Serial No. 09/929,519